collegevine

Test 1 Solutions Manual

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Note: There is no Essay Answer Key at this time.

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SECTION 1 - READING

QUESTION 1
Choice B is best. Tabitha requests that the headmistress allow her to sit for examinations and apply for the scholarship in lines 50-65 ("My name... your opinion"). Miss Polk later advocates for Tabatha by pushing Headmistress Ratherford to read Tabatha's letter in lines 96-97 ("At least... letter").

- It's NOT Choice A because lines 39-43 make it clear that Miss Polk and the girl immediately recognize each other, while the headmistress doesn't know the girl.
- It's NOT Choice C because this is not the main point of the passage, nor is it actually certain at what time in the day the scene is set.
- It's NOT Choice D because we have no idea if Tabitha was accepted to the school or not.

QUESTION 2
Choice B is best. The main event of the passage is clearly Tabitha's request to be allowed to apply for the scholarship, and everything revolves around describing this event. Even after Tabitha leaves the focus of the scene is still on her and her request.

- It's NOT Choice A because Tabitha's request is not a historical event, nor is her request analyzed by the characters or a narrator in any way.
- It's NOT Choice C because Tabitha's request is actually firm and surprisingly direct, and there certainly is no definitive response.
- It's NOT Choice D because the tone is not somber, and neither is the passage relating any sort of tragedy.

QUESTION 3
Choice C is best. Even if you are unfamiliar with the use of "elements" as synonymous with bad weather, in lines 3-7 the descriptions of dirty dress, tangled hair, and hurrying from work should lead you to presume "inclement weather" is the answer (tangled hair could be caused by wind, for example).

- It's NOT Choice A because components doesn't explain Tabitha's dirty dress and tangled hair.
- It's NOT Choice B because oxygen and nitrogen doesn't explain Tabitha's dirty dress and tangled hair, and is moreover oddly and unnecessarily specific.
- It's NOT Choice D because basic information doesn't explain Tabitha's dirty dress and tangled hair.

QUESTION 4
Choice A is best. Lines 7-8 ("She was… at all") imply that Tabitha is prepared for a difficult interview – her fear is that she will not be granted one at all.

- It's NOT Choice B because Tabitha just wants a chance to take the examinations any way that she can.
- It's NOT Choice C because Tabitha actually expects some sort of rebuke and is prepared for a "cold reception".
- It's NOT Choice D because Tabitha does not have any qualifications and knows that the headmistress will be skeptical of the arguments that Tabitha makes.

QUESTION 5
Choice A is best. See explanation for Question 4.

- It's NOT Choice B because the headmistress's actions reveal no insight as to what Tabitha's fears are.
- It's NOT Choice C because while Tabitha is startled to see Miss Polk, this offers no support as to her fear that the headmistress will refuse to grant her an interview at all.
- It's NOT Choice D because while the headmistress seems disinclined to allow Tabitha to apply for the scholarship, this does not give us any evidence that Tabitha had been afraid of this very possibility.

QUESTION 6
Choice D is best. "Deferential" means respectful in a submissive way. While Tabitha demonstrates her respect for the headmistress's authority, line 51 describes her voice as "stronger than anyone had expected". Thus, Tabitha also displays a confidence in herself.

- It's NOT Choice A Tabitha is never described as quiet or timid. If anything, she is bold and surprisingly assertive.
- It's NOT Choice B because Tabitha does seem to be genuinely in need of this scholarship – she has traveled all the way from work in inclement weather just for an opportunity to sit for the examinations.
- It's NOT Choice C because there is no sense that Tabitha is overly submissive or ingratiating.

QUESTION 7
Choice D is best. The paragraph introduces Miss Polk and Headmistress Rutherford, demonstrating their respective personalities and the power dynamic between the two women.

- It's NOT Choice A because the paragraph focuses on the two characters. In fact, we don't actually know what the exact location of the setting is, and no aspects of the "place" are described.
- It's NOT Choice B because there is no argument that is presented, only description.
- It's NOT Choice C because while Miss Polk is vaguely critical of the socioeconomic class of students that sit for examinations, this is not an indictment of the school as a whole. The criticism is merely limited to luxurious hats of the girls of supposedly meager means.

QUESTION 8

Choice A is best. The headmistress is able to infer Miss Polk's meaning through her indirect explanation; thus, Miss Polk's explanation and intent are obvious.

- It's NOT Choice B because Miss Polk's argument is not unrelenting. In fact, Miss Polk is not even confident enough to come out directly in support of Tabitha.
- It's NOT Choice C because opaque is actually an antonym of clear.
- It's NOT Choice D because simple doesn't fully capture the idea that Miss Polk had made her desire for Tabitha to be considered fully evident to Headmistress Ratherford.

QUESTION 9

Choice C is best. Lines 41-43 ("The girl... Miss Polk") make evident that the headmistress has taken note of Tabitha's reaction to Miss Polk and her apparent recognition of her.

- It's NOT Choice A because we simply don't have the evidence to know if this is true or not. Tabitha could have conceivably learned about the examination through many other channels left unmentioned in the passage.
- It's NOT Choice B because Miss Polk's lack of reaction to Tabitha would not be enough for the headmistress to figure out that Miss Polk knows Tabitha.
- It's NOT Choice D because the headmistress cannot be confident that Miss Polk knows every girl applying for or interested in the scholarship examinations.

QUESTION 10

Choice C is best. See explanation for Question 9.

- It's NOT Choice A because at this point in the passage Tabitha has not even been introduced yet.
- It's NOT Choice B because Miss Polk's impassivity can't give Headmistress Ratherford any idea that she knows Tabitha.
- It's NOT Choice D because nothing in Tabitha's self-introduction implies that she and Miss Polk have any prior connection.

QUESTION 11

Choice A is best. The first paragraph begins by describing the countless hours spent by Americans in choosing their insurance. Consumers are the focus of this introductory paragraph: lines 4-10 ("Billions of... body parts")are merely a continuation of this idea and an attempt to show that consumer desire to purchase insurance is greater than ever.

- It's NOT Choice B because while lines 5-10 do give an example of different items that can be insured, this is not the main point of the passage.
- It's NOT Choice C because line 13 directly contradicts this point, arguing that "consumers typically feel secure".
- It's NOT Choice D because this paragraph is about consumer and customer demand, not insurance supply.

QUESTION 12
Choice B is best. Reading the full sentence from lines 8-12 ("Insurance is... emotions"), the word "despite" implies that there are emotions that run contrary to the rising popularity of insurance itself. Thus, we expect the answer to imply some sense of opposition, and specifically a contrast between willingness and unwillingness.

- It's NOT Choice A because these emotions are not necessarily jarring, even if the contrasting emotions may be somewhat uncomfortable.
- It's NOT Choice C because uncertain is not an appropriate synonym for discordant.
- It's NOT Choice D because while cacophonous is synonymous to discordant, this is regards to the auditory definition of discordant, which is the incorrect one to apply here.

QUESTION 13
Choice D is best. Lines 45-48 ("According to... reduce risk") argue that "people are willing to forfeit money in order to reduce risk". Thus, people use insurance and value it as a means to avoid risk.

- It's NOT Choice A because there is no evidence for this point, and the passage actually argues in lines 72-75 that the financial penalties of the insurance itself are higher, while line 32 argues that single time financial penalties are typically in the range of $5000.
- It's NOT Choice B because this answer choice is too specifically tailored to automobile accidents. Why would fears on driving create value for insurance pets or a mortgage, for example?
- It's NOT Choice C because not all insurance is required by the government, and lines 71-75 directly contradict this argument anyways.

QUESTION 14
Choice C is best. This paragraph provides an explanation for why insurance has value, using risk aversion theory to support its claim.

- It's NOT Choice A because lines 12-18 only create confusion as to why insurance would be valued.
- It's NOT Choice B because a government mandate does not explain why people *want* insurance, while it may help to explain why people actually purchase insurance.
- It's NOT Choice D because this directly contradicts the logic behind purchasing insurance.

QUESTION 15
Choice C is best. The author of the passage introduces this new study as a mechanism through which he can introduce the idea of risk theory, an idea that has not yet been developed anywhere before in the passage.

- It's NOT Choice A because the passage introduces this new study in order to produce more evidence for the same point.
- It's NOT Choice B because while the first sentence of the passage questioned the motive or logic behind the valuing of insurance, the rest of the passage is an attempt to explain and answer this question.
- It's NOT Choice D because while this study does study the idea of risk aversion theory, its main purpose is to introduce the idea of risk aversion to the reader and thus plays a more important role in introducing a new idea than supporting an old theory.

QUESTION 16
Choice A is best. The neuropsychologists have found supporting evidence for risk aversion theory described in lines 39-51 ("In a recent… process"), and therefore would be likely to find it reasonable.

- It's NOT Choice B because if the neuropsychologists found strong evidence for the theory, they would be more likely to accept than question the theory.
- It's NOT Choice C because just because they agree with the theory does not mean that they find it predictable. Furthermore, it is somewhat nonsensical to describe a theory as "predictable".
- It's NOT Choice D because the neuropsychologists would feel exactly the opposite way of this answer choice.

QUESTION 17
Choice D is best. Car companies are using commercials to try and convince ("sway") customers to purchase insurance as described in lines 52-55 ("Car insurance… actually are"). The key here is that they are trying to "make them believe" certain things. Of the answer choices, persuade is the word that lines up most with these constraints.

- It's NOT Choice A because wobbling a customer into buying insurance makes no sense.
- It's NOT Choice B because while this choice is appealing, it does not convey enough of the convincing aspect that is necessary and implied in "sway" and emotional appeals. Additionally, I could convince you to buy insurance if a large part of you did not want to, but to convert you implies that there is no reluctance on your part to buy insurance, which is too strong a claim here.
- It's NOT Choice C because this answer choice is again a synonym on the physical definition of "sway" and makes no sense in this context.

QUESTION 18
Choice B is best. The answer lies in the second half of the same sentence. That "this fear is at odds with the daily experience of most car insurance subscribers" heavily implies that this assumption is incorrect, or an unsupported fear. Misguided best fits this description.

- It's NOT Choice A because this is directly contradictory to the second half of the noted sentence.
- It's NOT Choice C because contradictory is too strong a word. While the evidence doesn't quite back up the belief fully, it is still true that since deadly crashes are still possible the reality is not directly contradictory to the underlying belief.
- It's NOT Choice D because the second half of the given sentence implies that the assumption is not undetermined, but actually incorrect.

QUESTION 19
Choice B is best. See answer for Question 18.

- It's NOT Choice A because this is an emotional appeal used by car insurance companies that, if anything, supports the assumption stated in lines 62-63.
- It's NOT Choice C because lines 75-78 describe how insurance companies can exploit the assumption made in 62-63, but provides no explanation for why the assumption is misguided.
- It's NOT Choice D because while part of it argues that purchasing insurance may be irrational, it gives no evidence for why it is irrational, nor does it provide any explanation relevant to fears of getting into deadly automobile accidents.

QUESTION 20
Choice B is best. The graph shows that Benefit without Crash is the least relevant category on insurance purchasing decisions/profit.

- It's NOT Choice A because annual cost of insurance is greater than benefit without cost.
- It's NOT Choice C because annual benefit received is greater than benefit without cost.

● It's NOT Choice D because benefit with crash is greater than benefit without cost.

QUESTION 21

Choice C is best. This has been the idea of the entire passage, and is supported by the graph showing the willingness of the population to purchase insurance far in excess of the amount that will be paid out. This concept is best illustrated in lines 37-51 ("Why do… process").

● It's NOT Choice A because a government mandate would be unable to explain the differences in costs and payments shown in the graph.
● It's NOT Choice B because a growing acceptance of insurance would be unable to explain the differences in costs and payments shown in the graph.
● It's NOT Choice D because a lack of wealth in America if anything would imply that insurance purchases should be falling, but does not explain the disparity in costs and payments of insurance.

QUESTION 22

Choice B is best. The use of "building blocks" emphasizes the importance of neurons in the brain and implies that they are of foundational importance for the rest of the brain and nevous system.

● It's NOT Choice A because there is no evidence to argue that all neurons are a permanent part of the brain.
● It's NOT Choice C because the author gives no sense that neurons are stacked on top of each other.
● It's NOT Choice D because line 10 argues that neurons are complex structures, and the entire rest of the passage is spent focusing on and describing the organization of neurons.

QUESTION 23

Choice A is best. Lines 24-26 directly contradict the stated claim, arguing that "Unlike other parts of the neuron, the soma does not play a role in the transmitting information".

● It's NOT Choice B because the axon transmits the neural signal, which is still information.
● It's NOT Choice C because the terminal button and synapse both receive and send to other neurons.
● It's NOT Choice D because lines 64-67 have no information on what roles individual parts of the neuron have in transmitting information.

QUESTION 24

Choice D is best. Lines 13-15 provide a clear analog to trees, where the author describes dendrites as stretching out like branches.

- It's NOT Choice A because long and complex is not obviously a comparison to a tree.
- It's NOT Choice B because there is no evidence for this.
- It's NOT Choice C because smaller neurons are never actually explicitly mentioned. The author mentions that some neurons have only one dendrite, but this is irrelevant for our question.

QUESTION 25

Choice C is best. The author includes paragraph 3, lines 23-39 ("The next… running"), in order to describe a part of the neuron that is vital to the cell's continued operation despite not playing a direct role in information transmission.

- It's NOT Choice A because the author never makes a direct comparison between neurons and other cells, and does not appear to find it important to draw a distinction at any point in the passage.
- It's NOT Choice B because the author makes no effort to rank any part of the neuron in order of importance, nor does the description of the soma have any information to distinguish between the importance of the role of the dendrites against the axons.
- It's NOT Choice D because the author actually explicitly states that the soma has no role in information transmission.

QUESTION 26

Choice B is best. The author uses an appositive phrase to describe myelinated axoms as having a fatty layer. If all axons had a fatty later, this description would be redundant and completely unnecessary. Thus, we can fairly imply that not all axons have a fatty later and that myelinated axons are unique in this regarded.

- It's NOT Choice A because the author encodes no sort of information on the size of myelinated axons in lines 52-54.
- It's NOT Choice C because while myelinated axons seem to fulfill their functions well in large part due to their fatty layer, it is not at all clear that a fatty layer would consequently aid in the execution of the tasks of other types of neurons.
- It's NOT Choice D because lines 52-54 make no statement about axons in general, and do not even lead correctly to the conclusion that myelinated axons would not function without their fatty layer. Perhaps they still could operate but only at a restricted pace.

QUESTION 27

Choice D is best. The word opposite is applied, well, in opposition to the idea that "it may seem as though the information transmission process takes a long time". Thus, the author is attempting to fight against this idea. Coupled with the terms "lightning" and "instantaneously" we see that the final paragraph must function in emphasizing some aspect of speed or quickness of neuron ability. Choice D fits this description perfectly.

- It's NOT Choice A because while the author believes this, this is not the main purpose of the final passage and the "lightning" and "instantaneously" do not support this idea strongly.
- It's NOT Choice B because nowhere in the passage is this claim made or mentioned.
- It's NOT Choice C because while this claim may be true, the author is attempting to make a stronger argument than this, in particularly how effectively neurons function.

QUESTION 28

Choice D is best. Please be careful in looking at the graph. Note that figures in the cerebral cortex column are given in billions. Thus, the correct answer is .245*1,000,000,000 = 245,000,000 and 8.

- It's NOT Choice A because .245 is incorrect.
- It's NOT Choice B because 179 is incorrect.
- It's NOT Choice C because 80 is incorrect.

QUESTION 29

Choice C is best. The author argues that humans are the most advanced species in part because of our large cerebral cortex neuron count in lines 7-9 (Humans are… neurons), yet we do not have the most neurons even of the animals given in the table. This would suggest that there is more to intelligence than raw cerebral cortex neuron count.

- It's NOT Choice A, although this is a reasonable guess. While this does seem to line up in part with the author's argument that large numbers of neurons help explain why humans are so advanced, if neurons are important we would expect whales to at least have a reasonable expectation of being more intelligent than humans.
- It's NOT Choice B because by this logic, this answer should be wrong because humans have less neurons than a pilot whale.
- It's NOT Choice D because the passage doesn't make any mention of the importance of heavy brains on intelligence.

QUESTION 30

Choice C is best. 37.2 billion is the number of neurons in the pilot whale, which is the only animal to show a greater of neurons than humans.

- It's NOT Choice A because this refers to the number of neurons in a chimpanzee.
- It's NOT Choice B because this refers to the number of neurons in an African elephant.
- It's NOT Choice D because this refers to the weight of the brain of a pilot whale, but does not refer to the number of neurons it has.

QUESTION 31
Choice C is best. A quick look at random animals in the table will reveal that number of cerebral cortex neurons and brain weight are not directly related – the relationship certainly varies. For example, consider the hedgehog, the dog, and the marmoset. Lines 7-9 ("Humans are… of neurons") describe how humans have a very high number of cerebral cortex neurons, despite our intermediate brain mass.

- It's NOT Choice A because the table shows that neurons and weight are not directly related.
- It's NOT Choice B because the table shows that neurons and weight are not directly related.
- It's NOT Choice D because lines 67-70, while explaining the speed of neurons and their execution, offer no insight or relevance to the varying relation between neurons and brain weight.

QUESTION 32
Choice B is best. Hardship is a consistent theme in the narrator's story, starting in paragraph one with "only in our dreams and on our deathbeds can we fantasize about a different life." In lines 26-35 ("In another… illiterate parents") the detailed descriptions of everything the narrator *can't* do that we often take for granted, including having a source of food and water, paint a dark picture of life in this rural village.

- It's NOT Choice A because the passage never mentions traditions, and there is little in this village that the narrator deems to be valuable.
- It's NOT Choice C because the passage never mentions any specific plans for reform; it is more a wistful examination of an unjust world.
- It's NOT Choice D because while the narrator briefly discusses the possibility of changing her fate, she immediately rules it out as impossible.

QUESTION 33
Choice D is best. The key to this question lies in lines 32-36 ("I didn't… we are"), starting with the cycle of "I didn't ask…" The narrator laments that she never had a chance at a better life simply because of the conditions which she was born under. Although she can dream at what could have been, ultimately "Life is a lottery, and I have never been lucky."

- It's NOT Choice A because the narrator repeatedly states that her condition will never improve.
- It's NOT Choice B because although the narrator does use the example of a university education as a good thing in life she will never achieve, it is just a small part of her grievances.
- It's NOT Choice C because the narrator asserts that dreams are her only means to see a better life at the end of paragraphs one and three.

QUESTION 34
Choice A is best. The author's choice to write this passage in first person makes it intensely personal. Through the use of the word "I," we can directly observe her thoughts, hopes, dreams, and doubts unclouded by a third person narrator or other point of view.

- It's NOT Choice B because the author could have said she was hopeful without using the first person "I," and it is clear she is ultimately not hopeful about her lot.
- It's NOT Choice C because this is not a suspenseful passage, but even if the author wanted to do so, she would not have needed to use the first person.
- It's NOT Choice D because the narrator does not advocate for personal happiness, but rather laments her uninspiring future.

QUESTION 35
Choice B is best. The author clearly wishes she could have a life like that outlined in lines 11-25 ("I imagine... for support"). This is further backed up by the statements "in another life, I could be like them, floating like stars in the sky," and then "if only the world were fair and every child could have the same opportunities," wistfully referring to herself.

- It's NOT Choice A because the narrator talks about other people's lives in positive terms, as something she wishes every child had the opportunity for.
- It's NOT Choice C because the narrator seems clear about what she wants, at least in general terms: the opportunity to make something of her life.
- It's NOT Choice D because the passage is heavily focused on her life and what is impossible for her, so she uses examples of what other people her age are doing to comment on her own difficult life.

QUESTION 36
Choice B is best. The belief that her life will remain the same despite her dreams is outlined in lines 5-10 ("This is... different life."), where the author is setting up the rest of the passage.

- It's NOT Choice A because the narrator specifically says that a better future is not possible for her.
- It's NOT Choice C because the narrator never talks about thing getting worse, just that they will stay the same.
- It's NOT Choice D because college is outside of the realm of possibilities for her--she will never go to college, nevermind graduating from it.

QUESTION 37
Choice D is best. This is the only quote from the passage that makes it explicitly clear that her life has no potential for improvement. The other answer choices do show different aspects of her despair, but none of them capture the full picture quite like "I am sure that future will not come."

- It's NOT Choice A because saying the place where she was born will be the same place she dies does not mean that her life cannot improve; in fact, many people die in their hometowns after successful lives.
- It's NOT Choice B because this quote only talks about her inability to go to college and leaves open the possibility her life could improve in other ways.
- It's NOT Choice C because a lack of food or access to quality education is not necessarily a perfect indicator of her hopelessness in life.

QUESTION 38
Choice A is best. Wistful means to have a feeling of vague or regretful longing, and resigned means to have accepted something one cannot do anything about. This characterizes the passage as a whole, but especially in these questions. She wishes she could be like the other students, but realizes that is outside the realm of possibility for her.

- It's NOT Choice B because even though she may be jealous, she is certainly not ecstatic, which means to be filled with overwhelming joy.
- It's NOT Choice C because empathetic means to understand the emotions of others. While she wishes she has a different life, these questions are not about sharing the other students' feelings.
- It's NOT Choice D because provocative and needling both mean to deliberately make someone else annoyed or angry, which is no the case here.

Question 39
Choice C is best. Here the best evidence comes directly after the quoted part in question 38. These lines reaffirm her central claim that although she wishes she had a better life, there is nothing that can be done about it. This is particularly clear in the line "then again, none of us asked to be who we are."

- It's NOT Choice A because this quote does not relate at all to her questions--the quote is in paragraph one, and the questions are in paragraph three. While the general sentiment is similar, it is too far away to be the best explanation for question 38.
- It's NOT Choice B because this quote exemplifies here wistfulness, because it has the feeling of an idle daydream, but not her resignation.
- It's NOT Choice D because while this is a fitting close for this passage, it does not relate directly to the questions from question 38.

Question 40
Choice C is best. Open or closed doors is a common metaphor for opportunities in English, and it specifically relates to the narrator's overall theme. While she still has her dreams as a mean of escape, she knows that she has no opportunity to actually improve her lot in life.

- It's NOT Choice A because the narrator specifically states that dreams are still possible for her.

- It's NOT Choice B because misfortune is not "closed" for her; it is a part of her existence.
- It's NOT Choice D because charity never comes up in this passage.

Question 41
Choice A is best. This hits again on the main theme of the passage, which is that she has no opportunity for a better life simply because of where she was born. Specifically, this quote shows that despite her vivid dreams of improving her life, she knows ultimately nothing will change, and so she returns to her daily routines because she has no other choice.

- It's NOT Choice B because this passage has nothing to do with the distribution of work along gender lines, and never mentions gender once.
- It's NOT Choice C because this quote is more about her returning to her routines because she has no other choice, not necessarily because she has relaxed. It's close, but not exact.
- It's NOT Choice D because the major point in this passage is that major change will never happen.

Question 42
Choice A is best. Note that the paragraph referred to in this question is the one starting at line 23, the first two sentences of the passage aren't counted as a separate paragraph. The author highlights the destruction of ecosystems and the risk of diseases on lines 27-37 ("African savannahs… to cancer"), clearly illustrating those negative repercussions.

- It's NOT Choice B because this paragraph does not detail any specific methods, just that China and the US export their e-waste.
- It's NOT Choice C because the author has not gotten to any solution at this stage in the passage; they are just outlining the problem.
- It's NOT Choice D because listing countries is not a focus of this paragraph, they are mentioned in passing but the repercussions of dumping are the main focus.

Question 43
Choice B is best. This solution is outlined in lines 38-47 ("It is… to consumers"), where the author states "it is the responsibility of both the producers and consumers of electronics to ensure that their products are not discarded in dumps like these." It then goes on to discuss improving waste management infrastructure, fitting in with answer B.

- It's NOT Choice A because the author previously stated that exporting e-waste to other countries was bad, so establishing a system that perpetuates this would not be good for people or the environment.
- It's NOT Choice C because the author never mentions lessening electronic consumption, and acknowledges that it will keep growing.

- It's NOT Choice D because again, just transporting e-waste to another country will not solve the problem (according to this author), so creating a market for that will not help reduce waste.

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Question 44
Choice C is best. This sentence essentially restates question 43's answer. Choice C says "it is the responsibility of both the producers and the consumers of electronics to ensure that their products are not discarded in dumps like these," while the correct answer in question 43 says "holding producers and consumers responsible for their electronics."

- It's NOT Choice A because this may justify answer choice A from question 43, but does not mention anything about holding people responsible.
- It's NOT Choice B because this talks about the negative effects of e-waste dumping.
- It's NOT Choice D because this says that the e-waste problem will continue to grow, but does not offer any solutions.

Question 45
Choice B is best. Seep means to flow or leak slowly, which is how we can imagine this toxic sludge moving through Africa's soil and water.

- It's NOT Choice A because toxic elements can't dig.
- It's NOT Choice C because empty implies a more rapid dumping, rather than a slow flow.
- It's NOT Choice D because a leach can be a type of bug, but certainly not in this context.

Question 46
Choice C is best. This refers back to question 43, in which we determined e-waste can be reduced through holding people responsible and creating a disposal infrastructure. The idea of a disposal infrastructure is first brought up in this China example, then is described as first step in combating e-waste in the next paragraph.

- It's NOT Choice A because the recycling program is not a problem of e-waste, but rather a solution.
- It's NOT Choice B because introducing an example of an e-waste recycling infrastructure is not a question.
- It's NOT Choice D because this is not really an outcome of the the problem of e-waste dumping, but rather a way to avoid creating that problem.

Question 47

Choice D is best. In lines 101-105 ("To encourage... these programs") the author suggests a series of governmental measures that are necessary to ensure the success of e-recycling programs.

- It's NOT Choice A because the whole point of this article is to encourage e-waste recycling, not dumping. Also, it doesn't make sense to combat dumping by combining recycling with dumping.
- It's NOT Choice B because the author never discusses reducing electronics consumption, and admits that e-waste will be a problem for a long time.
- It's NOT Choice C because while one of the solutions to encourage more people to recycle their e-waste was to fine non-recyclers or tax electronics, there was no mention of taxing e-waste specifically, and it is certainly not a central claim.

Question 48
Choice B is best. You have to disassemble electronics in order to get access to the valuable materials inside.

- It's NOT Choice A because destroying the electronics would not allow you to access the materials inside.
- It's NOT Choice C because they are disassembling the electronics and selling the parts, not recreating the electronics.
- It's NOT Choice D because interpret means explain the meaning of something, which is not what is going on here.

Question 49
Choice A is best. Passage one does a great job of explaining e-waste and its harmful effects, but is light on specific solutions. In the last two paragraphs of passage 1, the author brings up "holding people responsible" and "creating recycling infrastructure," but does not get any more specific. Passage two, on the other hand, is very specific about what companies are doing and what governments need to do better.

- It's NOT Choice B because the passages are in agreement that e-waste is a problem that needs to be fixed.
- It's NOT Choice C because there is not much technical language in either of these passages.
- It's NOT Choice D because the two passages agree on the problem; it's just that passage two offers more specific solutions to it.

Question 50
Choice B is best. Passage two makes it clear that two things are needed to reduce e-waste: improved recycling plants and government incentives for recycling. In this example from passage one, China introduced the government incentives. So, the author of passage two would say they are still missing half of the solution, with the other half being improved plants.

- It's NOT Choice A because passage two never mentions special provisions for toxic waste; it just talks about e-waste in general.
- It's NOT Choice C because neither passage discusses the amount of government regulation the Chinese are used to.
- It's NOT Choice D because while passage two does factor in profitability, that isn't a main concern in the need for e-waste recycling.

Question 51
Choice B is best. According to passage two, there are two things needed to reduce e-waste: improved recycling plants and government incentives for recycling. This paragraph clearly states the first, which relates back to question 50, especially the line "these improved recycling programs offer a significant step forward in solving the e-waste problem."

- It's NOT Choice A because this just describes how these plants work; it does not relate at all to China's plan.
- It's NOT Choice C because this justifies the second need for reducing e-waste, which is government incentives for recycling. China had this, but was missing the improved plants.
- It's NOT Choice D because this also justifies the need for government incentives, and is incorrect for the same reason as choice C.

Question 52
Choice C is best. Explicit means stated outright. In passage one, we have "this practice harms the countries' environments and citizens," which kicks off a detailed look into e-waste's effect on the environment and disease spread. Implicit means implied but not clearly expressed. Passage two hints around that e-waste is dangerous, but never states that it is specifically bad for the environment and people.

- It's NOT Choice A because both of these passages are calling attention to the problem of e-waste, presumably because people don't realize how dangerous it is.
- It's NOT Choice B because this specific claim was never made, and, in fact, passage two says that even after recycling, e-waste needs to be disposed of safely.
- It's NOT Choice D because although this is discussed briefly in passage one, passage two never mentions jobs for local peoples or the secondary market.

SECTION 2 - WRITING

QUESTION 1
Choice D is best. The word "severity" means gravity or extremity of a condition, which fits the discussion of the obesity <u>epidemic</u>.
- It's NOT Choice A because "propensity" means a natural tendency to behave in a particular way.
- It's NOT Choice B because "intensity" means the quality of being intense.
- It's NOT Choice C because "inclination" person's natural tendency or urge to act or feel in a particular way

QUESTION 2
Choice B is best. This choice underlines how fast food's convenience saves people time without adding extraneous details.
- It's NOT Choice A because fast food providing a plethora of culinary choices is not relevant to this paragraph.
- It's NOT Choice C because avoiding fast food for health reasons is not relevant to this paragraph.
- It's NOT Choice D because staying late at the office is too specific.

QUESTION 3
Choice A is best. The phrase "may spend" is appropriate here because there is the possibility of them spending hours cooking.
- It's NOT Choice B because "hour's" inappropriately uses the possessive form of hour.
- It's NOT Choice C because the past perfect tense does not fit here.
- It's NOT Choice D because the past tense does not fit here and "hour's" inappropriately uses the possessive form of hour.

QUESTION 4
Choice C is best. The subject is a list of groups of people, so each item should be separated by a comma.
- It's NOT Choice A because a colon does not fit here, as it is not preceding a list of explanation.
- It's NOT Choice B because a semi-colon must separate independent clauses.
- It's NOT Choice D because a comma is not needed after the word "and".

QUESTION 5
Choice C is best. "This process" refers to "acquiring ingredients at the grocery store and cooking the meal" in sentence 4 and thus must follow it.

- It's NOT Choice A because it can't precede sentence 4, since "this process" is stated in sentence 4.
- It's NOT Choice B because that interrupts the sentences that introduce fast food.
- It's NOT Choice D because that makes "this process" an incorrect reference to part of sentence 5.

QUESTION 6

Choice D is best. This sentence serves as a transition into the themes of this paragraph and sets up the argument, therefore it is needed.
- It's NOT Choice A the sentence is necessary and does relate to nutrition.
- It's NOT Choice B because it does not contradict the main point of the passage and is needed.
- It's NOT Choice C it does not state another reason why people eat fast food.

QUESTION 7

Choice B is best. The phrase "act as" shows that these chemicals are addictive agents.
- It's NOT Choice A because "act like" implies that these chemicals are similar to addictive agents, when they <u>are</u> in fact the addictive agents in fast food.
- It's NOT Choice C because the infinitive cannot be used here.
- It's NOT Choice D because the chemicals are the addictive agents and are not in them.

QUESTION 8

Choice C is best. The phrasing of "is sold" is parallel to "is filled" from earlier in the sentence and also uses the correct present tense of to be.
- It's NOT Choice A because "sold" is incorrectly in the past tense.
- It's NOT Choice B because "selling" is incorrectly in the progressive tense.
- It's NOT Choice D because the future tense should not be used here.

QUESTION 9

Choice A is best. The word "additionally" fits logically here as this sentence adds on the last one.
- It's NOT Choice B because "alternatively" implies that there is a contrast.
- It's NOT Choice C because "therefore" implies that this sentence is a logical progression from the first, while it is instead a new detail.
- It's NOT Choice D because "in conclusion" implies that this sentence is a conclusion, but it is not.

QUESTION 10

Choice A is best. The word "satiated" means full, the fact people remain full for less time after eating these foods reinforces their low quality.
- It's NOT Choice B because "hungry" implies that this food would positively stop people from being hungry as opposed to healthier food.
- It's NOT Choice C because "better" is too vague.

- It's NOT Choice D because "sufficient" means enough, which is not linked to appetite.

QUESTION 11

Choice B is best. The comma is needed to separate the dependent that begins the sentence and the independent clause.
- It's NOT Choice A because "so there" would turn this sentence into two dependent clauses.
- It's NOT Choice C because the comma is necessary when this dependent clause begins the sentence
- It's NOT Choice D because we cannot separate two dependent clauses with a semicolon.

QUESTION 12

Choice B is best. "As few as 3,000 rabbits" is correct here as the y-axis is measured in hundreds, and in the winter the rabbit population drops to 3,000 rabbits and less.
- It's NOT Choice A because the rabbit population is also above 30 rabbits, since the y axis is measured in hundreds.
- It's NOT Choice C because including June 7th doesn't make sense as this sentence is focused on the rabbit population is winter and is not correct according to the graph.
- It's NOT Choice D because the rabbit population never reaches 10,000 rabbits or stay stable for months.

QUESTION 13

Choice A is best. "Summer, following" is both grammatically correct and concise.
- It's NOT Choice B because Choice A is more concise than this option.
- It's NOT Choice C because Choice A is more concise than this option.
- It's NOT Choice D because it omits the word "follow" which changes the meaning of the sentence, and as the second sentence is not an explanation of the first, a semicolon cannot be used here.

QUESTION 14

Choice B is best. The word "however" implies a contrast, which is appropriate as this sentence is a contradiction of what is mentioned in the previous sentences.
- It's NOT Choice A because "for example" implies that this sentence is an example of the idea presented in the previous sentences while is is in fact a contradiction.
- It's NOT Choice C because "as a result" implies a conclusion.
- It's NOT Choice D because "furthermore" implies an addition, while these ideas contradict.

QUESTION 15

Choice C is best. Commas are needed on either side of the phrase when it's in the middle of the sentence.

- It's NOT Choice A because that lacks a comma at the end of the phrase.
- It's NOT Choice B because that lacks a comma at the start of the phrase.
- It's NOT Choice D because the second comma should follow Vanderbilt at the end of this phrase.

QUESTION 16

Choice C is best. A colon is correct here as the "factor" directly references "the 'no wolf' problem"

- It's NOT Choice A because independent clauses must follow a semicolon and "the no wolf problem" cannot standalone.
- It's NOT Choice B because independent clauses must follow a semicolon and "and it was…" cannot standalone.
- It's NOT Choice D because the "factor" refers to the problem not being it.

QUESTION 17

Choice C is best. The word "which" is correct here because this phrase is necessary to this sentence.

- It's NOT Choice A because "that" implies that the following phrase is not a necessary part of the sentence.
- It's NOT Choice B because a comma cannot separate two independent clauses.
- It's NOT Choice D because "greatly upset" is in the wrong tense.

QUESTION 18

Choice A is best. "Settled" is correct because the past tense is correct here and this also matches the tense of "migrated"

- It's NOT Choice B because the present tense should not be used here.
- It's NOT Choice C because the future tense should not be used here.
- It's NOT Choice D because the past perfect tense should not be used here.

QUESTION 19

Choice D is best. "Their" is correct here because the possession is needed and we are referring to both the settler and sheep populations so plural is necessary.

- It's NOT Choice A because "it's" mean "it is" which does not fit here.
- It's NOT Choice B because the pronoun needs to be plural.
- It's NOT Choice C because there is an incorrect homophone of "their".

QUESTION 20

Choice D is best. This choice is correct because it causally follows the first half of the sentence.

- It's NOT Choice A because the spear grass is directly a cause (not related) to the decline of the rabbit population.
- It's NOT Choice B because the rabbit population should be declining not growing.
- It's NOT Choice C because we would not conclude that the rabbit population is being restored from a sentence discussing declining rabbit populations.

QUESTION 21
Choice B is best. "Itself" is the most concise and least redundant.
- It's NOT Choice A because the word "again" is redundant with the word "repeat".
- It's NOT Choice C because "with decline in rabbit population" is implied with the pattern repeating.
- It's NOT Choice D because "possibly" is redundant with "may".

QUESTION 22
Choice D is best. The "investigation" is referring to the next steps in sentence four and thus this sentence must follow sentence four.
- It's NOT Choice A because the "investigation" is mentioned earlier in the passage.
- It's NOT Choice B because the "investigation" is not mentioned until later in the passage.
- It's NOT Choice C because the "investigation" is not mentioned until later in the passage.

QUESTION 23
Choice D is best. The future tense "will tumble" accurately explains why the narrator is paranoid that an action might occur in the future.
- It's NOT Choice A because "tumbles" is present tense and cannot be used to describe an action that has not occured.
- It's NOT Choice B because similar to Choice A, "accidentally tumbles" is present tense.
- It's NOT Choice C because "should tumble accidentally" is a conditional tense instead of future tense.

QUESTION 24
Choice D is best. This is a case of tricky subjects. The subject of the independent clause that follows the phrase "Having exhausted all other options" should be connected to the narrator himself or herself. He or she is the one who had exhausted all other options, and not any other object. Choice D is the only answer choice that has "I" as the subject.
- It's NOT Choice A because "wearable technology" is the subject here and wearable technology cannot be the one "having exhausted all other options".
- It's NOT Choice B because "wearable technology" is the subject here and wearable technology cannot be the one "having exhausted all other options".
- It's NOT Choice C because "my runs" is the subject here and the runs cannot be the one "having exhausted all other options".

QUESTION 25
Choice B is best. When referring to an event that occured during a particular year the preposition "in" is most suitable.

- It's NOT Choice A because the preposition "into" is more suited in a context where there is physical movement towards something, as opposed to describing when an event happened.
- It's NOT Choice C because the preposition "for" is used to describe a purpose of an action, as opposed to describing when an event happened.
- It's NOT Choice D because "until" is used to describe the extent in which an event happened before an interruption, as opposed to describing when an event happened.

QUESTION 26

Choice A is best. The use of a colon is correct in this case because the first part of the sentence leads into a list of the types of Apple watch versions. When listing items, colons are the most appropriate.

- It's NOT Choice B because the lack of any punctuation combining the two sentences creates a run-on sentence.
- It's NOT Choice C because a comma cannot be used to separate an independent clause from a list.
- It's NOT Choice D because an exclamation mark cannot be used to separate an independent clause from a list.

QUESTION 27

Choice B is best. The type of transition that is most appropriate here is an "addition" type, since we move from talking about the types of Apple Watches offered to discussing an additional feature of Apple Watches. "Moreover" is an "addition" transition type.

- It's NOT Choice A because "by contrast" is a "contrast" transition type, and there is no contrast or conflict of ideas between the ideas in the prior paragraph and the current paragraph.
- It's NOT Choice C because "for these reasons" is a "conclusion" transition type, and the ideas in the current paragraph do not summarize or relate directly from the ideas in the prior paragraph. The ability to change the watch's case and band is an additional feature of Apple Watches that is separate from the different types that are offered.
- It's NOT Choice D because "similarly" suggests that the ideas in the current paragraph are related to the different types of Apple Watches, as opposed to introducing an additional feature of them.

QUESTION 28

Choice A is best. The sentence should be deleted because the sentence introduces a new idea that is not elaborated on in the future, which makes it out of place as a transition between the sentences it proceeds or precedes.

- It's NOT Choice B because while this sentence should be deleted, it does not provide any contradictory information.
- It's NOT Choice C because while the sentence provides additional details about the Apple Watch, these details are not necessarily relevant to the rest of the passage.

- It's NOT Choice D because this sentence does not summarize the paragraph's argument; rather, it introduces a new idea.

QUESTION 29
Choice B is best. The context of the paragraph is primarily focused on the fitness functionality of smartwatches. Choice B also focuses on the fitness aspect of the data given.
- It's NOT Choice A because the data given in Choice A focused on the GPS and navigation features of smartwatches, which is not aligned with the fitness-focused context.
- It's NOT Choice C because the data given in Choice A focused on the social media features of smartwatches, which is not aligned with the fitness-focused context.
- It's NOT Choice D because the data given in Choice A focused on the environmental data features of smartwatches, which is not aligned with the fitness-focused context.

QUESTION 30
Choice D is best. "Those" is a subject so that the use of "who", rather than "whom" is most appropriate here.
- It's NOT Choice A because the underlined part doesn't align well with the subsequent context. A possessive pronoun like "whose" should have ownership over an object, followed by a verb, rather than a subsequent prepositional phrase.
- It's NOT Choice B because "whose" should be followed by a noun, and it is followed by a verb in this case.
- It's NOT Choice C because "whom" is only used to refer to the object of a verb or preposition. In this case, "those" is a subject and "it" is the object.

QUESTION 31
Choice C is best. The sentence describes the process of testing out the device, so it should follow the setup of describing how the device was acquired but before any evaluation of the experience.
- It's NOT Choice A because this sentence cannot be placed before the description of the acquisition of the watch.
- It's NOT Choice B because this sentence cannot be placed before the description of the acquisition of the watch.
- It's NOT Choice D because sentence 3 is an evaluation of the experience and this sentence describes the experience process, so it should go before sentence 3.

QUESTION 32
Choice A is best. This choice accurately separates the prepositional clause from the rest of the sentence with a comma.
- It's NOT Choice B because colons are usually used to transition an independent clause to a list or an explanation of an idea. This case is neither of those situations.

- It's NOT Choice C because the phrase following the semicolon is not an independent clause, which is a prerequisite of the semicolon use (both clauses before and after should be independent clauses).
- It's NOT Choice D because separating the sentence into two sentence makes the second part a dependent clause and not a full sentence.

QUESTION 33

Choice A is best. Staple indicates that the watch is something that can be integrated into everyday life seamlessly, which is the intention here.

- It's NOT Choice B because the smartwatch is the subject and is singular, so it cannot be referred to by "staples", which is plural.
- It's NOT Choice C because necessity has a connotation that people are unable to live without the watch, whereas the purpose is to describe the watch as something that can merge into everyday life.
- It's NOT Choice D because bane refers to something that is burdensome and painful, whereas the context of describing the watch here is that it is an important and indispensable part of everyday life.

QUESTION 34

Choice A is best. "Essentially" works the best here because the transition from the previous sentence to the current one is to describe buffet-style streaming and what it "essentially" entails.

- It's NOT Choice B because the current sentence is not an example of buffet-style streaming, but rather, an elaboration of what this concept actually is.
- It's NOT Choice C because "alternatively" suggests that this current sentence describes a different style of streaming but it continues to elaborate on buffet-style streaming.
- It's NOT Choice D because "even so" suggests that there is some degree of contrast between the previous sentence and the current - the current sentence, however, is merely an elaboration of the previous one.

QUESTION 35

Choice A is best. This is the most concise choice that still maintains the sentence's contextual intention.

- It's NOT Choice B because this choice is long, needlessly complicated, and borderline grammatically incorrect
- It's NOT Choice C because it is already clear from earlier in the paragraph that this sentence is referring to streaming. Some students pick this answer because they believe it offers additional information but it is too redundant and lengthy.
- It's NOT Choice D because this choice is only a less concise way to say exactly the same thing

QUESTION 36
Choice B is best. "Services" is plural, so it requires a plural verb form for subject-verb agreement. "Offer" is the plural tense.
- It's NOT Choice A because "offers" is the singular tense, which doesn't align with the plural tense of "services".
- It's NOT Choice C because "to offer" is in infinite form rather than present tense form.
- It's NOT Choice D because "offering" requires a helping verb to connect it directly with a subject.

QUESTION 37
Choice C is best. The overall tone of the paragraph is more negative and pensive about the future of the transition for the music industry. Choice C accurately depicts the result of the plummeting sales peak: aspiring musicians are becoming less and less optimistic about the financial future of this industry.
- It's NOT Choice A because this choice focuses on the shift to performances over online recordings, whereas the paragraph focused more on the negative commercial future of the digital era of music.
- It's NOT Choice B because the paragraph does not talk about the increase in revenue - rather, there has been a decrease in revenues.
- It's NOT Choice D because the sentence does not serve as a summary of the paragraph, but instead, is more of an additional detail. Furthermore, "nevertheless" is a contrast transition type, and the content is an additional detail, not a contrasting detail.

QUESTION 38
Choice C is best. In spite of a decline, the recent trends appear promising, indicating that a contrast transition type is necessary here. "Despite" is the only contrast type.
- It's NOT Choice A because "within the" suggests that the recent trends are embedded within the larger theme of the overall decline, which is incorrect.
- It's NOT Choice B because "because of" suggests that the recent trends are a result of the overall decline, which is incorrect.
- It's NOT Choice D because "after" depicts a progression transition type and there is no chronological transition of events here.

QUESTION 39
Choice A is best. This is the most concise choice that lacks redundancy and fully expresses the idea.
- It's NOT Choice B because this is grammatically incorrect and "10%" conveys the same information with less.
- It's NOT Choice C because although this answer is grammatically correct it is a much longer way to say the same thing conveyed by "10%"
- It's NOT Choice D because this is grammatically incorrect and needlessly long

QUESTION 40

Choice B is best. Proliferation is the subject here and it is a collective singular noun. We are looking for a singular past verb tense here to have subject-verb agreement, and "has bolstered" meets that criteria.

- It's NOT Choice A because proliferation is singular and "have bolstered" is plural tense.
- It's NOT Choice C because proliferation is singular and "bolster" is plural tense.
- It's NOT Choice D because "bolstering" needs a helping verb to connect it with a subject/noun.

QUESTION 41

Choice B is best. The preposition here describes "number", which is referring to the number of listeners.

- It's NOT Choice A because in this case, "number" describes the "interactions" in the preposition, as opposed to the "number of listeners".
- It's NOT Choice C because the preposition in this case requires a participial phrase like "interacting" a verb tense like "interact".
- It's NOT Choice D because because in this case, "number" describes the "interactions" in the preposition, as opposed to the "number of listeners".

QUESTION 42

Choice C is best. The sentence presents information about a topic that is not relevant to the previous paragraph or the new paragraph, so it should not be included.

- It's NOT Choice A because although the passage's main point is indeed about the revitalization of the music industry by streaming subscriptions, that is not the focus of this sentence.
- It's NOT Choice B because this sentence is not a counterargument of the passage's common claim.
- It's NOT Choice D because the sentence is not a contrary argument - it merely introduces irrelevant information.

QUESTION 43

Choice D is best. "That…benefits of collaboration" in this case takes on a subject form, so it is unnecessary to have any preposition or transition word between that and the verb.

- It's NOT Choice A because "That…benefits of collaboration" in this case takes on a subject form, so it is unnecessary to have "which" between that and the verb.
- It's NOT Choice B because "That…benefits of collaboration" in this case takes on a subject form, so it is unnecessary to have "that" between that and the verb.
- It's NOT Choice C because "That…benefits of collaboration" in this case takes on a subject form, so it is unnecessary to have "therefore" between that and the verb.

QUESTION 44
Choice D is best. The pronoun in this case refers to the consumers, so the appropriate one is "their".

- It's NOT Choice A because "our" is not the appropriate pronoun that refers to a plural "other" noun like consumers.
- It's NOT Choice B because "one's" is not the appropriate pronoun that refers to a plural noun like consumers.
- It's NOT Choice C because "his or her" is not the appropriate pronoun that refers to a plural noun like consumers.

SECTION 3 - MATH (NO CALC)

QUESTION 1
Choice D is correct. Since $k = 3$, the equation $\frac{2x+6}{4} = m$ can be rewritten as as $\frac{2x+6}{4} = 4$.
Multiplying both sides of the equation by 4 results in $2x + 6 = 16$. Subtracting 6 from both
sides of the equation result in $2x = 10$, which can further be simplified by dividing by 2,
resulting in $x = 5$.

QUESTION 2
Choice A is correct. Sum refers to addition, so like terms in the equations must be added.
With $(9 - 5i) + (-6 + 12i)$, $9 - 6 = 3$ and $-5i + 12i = 7i$.

QUESTION 3
Choice C is correct. Since Emily makes e cookies each hour and worked for 8 hours, the
mathematical representation is $8e$. Similarly, Josh makes j cookies per hour and worked for
7 hours, which can be represented as $7j$. The sum of these two terms, $8e + 7j$, represent
the total number of cookies made.

QUESTION 4
Choice B is correct. 48d represents Evelyn's ability to test 48 lipsticks per day. Therefore, if
she works for 0 days, the equation becomes L = 300. Therefore, the 300 represents the the
number of lipsticks that Evelyn must test per month.

QUESTION 5
Choice D is correct. First multiple every variable in the expression $(-4a^2b + 2ab^2 - 7b^2)$ by
(-1), resulting in $4a^2b - 2ab^2 + 7b^2$. Now, combine the like variables in
$6a^2b - 5b^2 + 8ab^2 + 4a^2b - 2ab^2 + 7b^2$, resulting in $10a^2b + 6ab^2 + 2b^2$.

QUESTION 6
Choice A is correct. Since the overall total of the equation increases by 4.5 every time b is
increased, 4.5 is the amount that the bush grows every year.

QUESTION 7
Choice B is correct. Since the goal is to isolate E, multiply both sides of the equation by
$(1 + \frac{b}{450})^c - 1$, resulting in $((1 + \frac{b}{450})^c - 1)d = (\frac{b}{450})(1 - \frac{b}{450})^c E$. Then divide both sides of the
equation by $(\frac{b}{450})(1 - \frac{b}{450})^c$, resulting in $\frac{((1+\frac{b}{450})^c - 1)d}{(\frac{b}{450})(1 - \frac{b}{450})^c} = E$

QUESTION 8

Choice C is correct. First multiple both sides of the equation of $\frac{x}{y} = 7$ by y, resulting in $x = 7y$. Then substitute 7y in for x in $\frac{21y}{x}$, resulting in $\frac{21y}{7y}$, which simplifies to 3.

QUESTION 9
Choice B is correct. First add 7x to both sides of the equation $y - 7x = 11$, resulting in $y = 7x + 11$. Then substitute this value for y in the equation $6x - 2y = 11$, resulting in $6x - 2(7x + 11) = 10$. Distributing the -2 across the expression $7x + 11$ results in $6x - 14x - 22 = 10$. Combine like variables to $-8x = 32$. Divide both sides of the equation by -8, which results in $x = -4$. Finally, substitute this value for x in either equation. If substituted in $y - 7(-4) = 11$, then first distribute the -7, and then subtract 28 from both sides of the equation, resulting in $y = -17$. Your final answer is the point where $x = -4$ and $y = -17$, or (-4, -17)

QUESTION 10
Choice A is correct. Since b is a constant, the first step is utilizing the provided information $f(6) = 72$ to solve for b. Substituting the values into the equation results in $72 = 2b(6)^2 + 36$ or $72 = 72b + 36$. Subtracting 36 from either side of the equation and then dividing by 72 leaves $b = \frac{1}{2}$. Now, the original equation can be rewritten as $f(x) = 2(\frac{1}{2})x2 + 36$, or $f(x) = x2 + 36$. The value of $f(-6) = (-6)2 + 36 = 36 + 36 = 72$

QUESTION 11
Choice D is correct. The price per pound of rice is equal to the price per pound of noodles when R = N. Therefore, a single equation can be written as $1.25 + .75x = 2.75 + .5x$ (*NOTE - this in only solving for what week, or when, the prices will be equal, not the prices themselves). Combining like terms by subtracting both sides of the equation by 1.25 and $.5x$ results in $.25x = 1.5$, which can be simplified to $x = 6$. However, now we must substitute $x = 6$ into one of the original equations, which for rice would be $R = 2.75 + .5(6)$, which in turn results in 5.75m being the price.

QUESTION 12
Choice D is correct. If the line passes through the origin (0,0) and the slope is ¾, then the equation can be written as $y = \frac{3}{4}x$. Two options for solving this problem are plugging in all four points given in the possible answer into the equations and solving so see if the equation proves true. Or, the slope and y - intercept allows us to infer that the x coordinate must be a multiple of 4 and the y coordinate a multiple of 3, making D the only answer that complies with these conditions.

QUESTION 13
Choice B is correct. Since the goal is to simplify the equation, first add the two expressions in the denominator. Cross multiply $\frac{1}{x+3} + \frac{1}{x+5}$ to get a common denominator, which results in $\frac{x+5+x+3}{(x+3)(x+5)}$. Now, simplify the equation by placing the denominator of the expression in the

numerator of the entire equation, which results in $\frac{(x+3)(x+5)}{x+5+x+3}$. Simply the equation by first multiplying the expressions in the numerator and adding like terms in the denominator. This results in $\frac{x^2+8x+15}{2x+8}$

QUESTION 14

Choice A is correct. First make the bases of $\frac{4^x}{8^y}$ the same by rewriting 8 as 2^3 and 4 as 2^2, which results in $\frac{2^{2x}}{2^{3y}}$. Now using exponent rules rewrite this as $2^{(2x-3y)}$. Since we are given $2x - 3y = 4$, we replace the exponent and are left with 2^4 .

QUESTION 15

Choice D is correct. First multiply the expression $(ax + 4)(bx + 2)$, which results in $abx^2 + 2ax + 4bx + 8$. Since that expression has to equal $8x^2 + cx + 8$, we know that ab has to equal 8, or $ab = 8$ .Similarly, $2a + 4b = c$. Since the question states that $a + b = 6$, we can substitute a with $8/b$, which results in $8/b + b = 6$. This can be rewritten as $\frac{(b^2 + 8)}{b} = 6$, which in turn can be rewritten as $b^2 + 8 = 6b$. This then gives us the quadratic equation $b^2 - 6b + 8 = 0$. In factored form, this equation becomes $(b-4)(b-2) = 0$, so b equals either 4 or 2. Reusing our equation $a + b = 6$ and substituting the two possible b values, a can either become 4 or 2 depending on whether b is 2 or 4 respectively. Using the equation $2a + 4b$ and substituting in these respective a and b values (a = 2 b = 4 or a = 4 b =2), c equals either 20 or 16.

QUESTION 16

6 is correct. Since $x^2 - 36$ can be rewritten as $(x - 6)(x - 6)$, x has to equal either 6 or negative 6. And since the question specifies that $x > 0, x = 6$.

QUESTION 17

600 is correct. Since angle FGJ and angle IGH are the same, we know that these two triangles are similar by the angle-angle-angle definition. Therefore, since JG corresponds to JI, the ration between their respective 1000 and 500 lengths is 2. And since FJ corresponds to IH and IH is 300, FJ, or y, is 600.

QUESTION 18

12 is correct. Use the equation $x + y = 32$ to solve for y, which results in $y = 32 - x$. Then substitute this value into $-3x + y = 6$, resulting in $-3x + 32 - x = -16$. Combine like terms and subtract both sides by -32 to isolate x, resulting in $-4x = -48$. Simplify by dividing both sides of the equation by -4, and $x = 12$.

QUESTION 19

5/13 is correct. Since cos is adjacent over hypotenuse, we know that the side adjacent to cos(x) is 5 and the hypotenuse is 13. Since sin(90 - x) is the angle opposite of cos(x) that is

not the right angle, the adjacent side of length 5 is now the opposite side relative to sin(90-x). Since sin is opposite over hypotenuse, the final answer is 5/13.

QUESTION 20

144 is correct. Rearrange $2a = \sqrt{3x}$ to $a = \frac{\sqrt{3x}}{2}$. Now, since both equations are equal to a, we can say $6\sqrt{3} = \frac{\sqrt{3x}}{2}$. Multiplying both sides of the equation by 2 and dividing both by $\sqrt{3x}$ results in $12 = \frac{\sqrt{3x}}{\sqrt{3}}$. The $\sqrt{3}$ in the numerator and denominator cancel, leaving you with $12 = \sqrt{x}$. Square both sides, and x = 144.

SECTION 4 - MATH (CALC)

QUESTION 1
Choice B is correct. Because this interval is the only option where there is first a decreasing slope (downwards slanting line) followed by an increasing slope (upwards slanting line). The break between the two lines is irrelevant because it just means the car was stopped for a minute.

QUESTION 2
Choice C is correct. Two steps to solve this. 1.) plug in $y = 48$ and $x = 12$ into $y = cx$ so that you have $48 = 12c$ and then divide both sides by 12 to solve for c and you'll get that $c = 4$. 2.) Next plug in $c = 4$ and $x = 6$ into $y = cx$ so that you have $y = 4 \times 6 = 24$. This problem is just two system of equations problems together.

QUESTION 3
Choice D is correct. First the vertical angle to angle 1 is also 25˚. Then use the fact that co-interior angles are supplementary (so the co-interior angle is 155) followed by the fact that alternate interior angles are equal to determine that angle 2 is 155˚.

QUESTION 4
Choice C is correct. "$112 + 28x$ is 118 more than 50" is just another way of saying $112 + 28x = 118 + 50$. With basic algebra this can be simplified to $28x = 56$. Then you can divide both sides by 28 and you get that $x = 2$. BUT be careful because the question is asking what "50x" is so you then need to multiply 2 by 50 and you get that the answer is 100.

QUESTION 5
Choice D is correct. A strong positive correlation means that as one variable increases so does the other so the dots should essentially form a straight increasing/positive slope line. The only answer choice that displays an upwards sloping line is D.

QUESTION 6
Choice D is correct. The trick to this problem is multiplying be "clever" forms of 1 to cancel out units. So start with multiplying out $(6dL)(10L/1dL)(1000mL/1L)$. The units cancel out so that you end up in milliliters. And you should get 60,000 as the numerical value.

QUESTION 7
Choice C is correct. So the problem here is that you don't know the units of the y axis values. So add up the total number of unknown units $(9 + 7 + 8 + 6 + 5 = 35)$ and then divide $365,000/35$ to get roughly 10,000. This makes sense because if you summed the chart using those units you would get a total number of children of 356,000.

QUESTION 8
Choice D is correct. The answer is that there is no such value of p because $|p - 8|$ has to be a positive number so if you have any positive number and then add another positive number, 8, it's impossible to yield zero or anything negative.

QUESTION 9
Choice A is correct. All you need to do here is isolate the variable a. Start by subtracting 305 from both sides and then divide both sides by 11.5 and you should get answer choice A.

QUESTION 10
Choice B is correct. To solve for altitude we can assume maximum speed of the plane $m = 607$. So plug in $m = 607$ into the equation and you should get: $607 = 305 + 11.5a$. Then just solve for a by subtracting 305 from both sides and then dividing both sides by 11.5. You should get that $a \approx 26$ so the answer choice is B because the question states that altitude is described in thousands.

QUESTION 11
Choice A is correct. I would start by simplifying the equation by subtracting 4x from both sides so you get $-10 \geq x - 6$. Next add 6 to both sides to get $-4 \geq x$. At this point it's clear the only answer choice that does NOT work is A so that's the answer.

QUESTION 12
Choice C is correct. Average means total number of chocolate chips used in all cookies divided by total number of cookies. Start with the first bar: there are 3 cookies with 4 chocolate chips each which means $3 \times 4 = 12$ total chocolate chips. Then do the same thing for the second bar: $5 \times 3 = 15$ chocolate chips. Continue this for all the bars and sum the numbers of chocolate chips and you should get a total number of chocolate chips = 100. The title tells you that there are 14 cookies so then all you need to do is $100 \div 14 = 7.14$ which is closest to answer choice C.

QUESTION 13
Choice C is correct. 15% of 300 (the total) is 45. 47. This is the closest number to 45 on the chart so the answer is males taking French II.

QUESTION 14

Choice C is correct. Mode is the most common number (here it is 11) which won't change if 37 is removed from the lengths. Mean (average) will change but not by a lot because the change in the sum of all the numbers will be divided by the total number of lengths. Range will by far change the most because it will go from 30 to 8, thus yielding a total change of 22 inches.

QUESTION 15
Choice A is correct. C-intercept represents the cost at zero minutes, ie the fixed cost of renting the truck. At $t = 0$, Cost = 4 which means that you have to pay $4 just to rent the truck not including the price per an hour. So the answer is A, the initial cost of renting the truck.

QUESTION 16
Choice C is correct. This sometimes trips up students just because the variables are h and C instead of x and y. But this question is simply asking you to find the equation of the line in y=mx+b form where C= y and h=x. The y-intercept is 4 and the slope is 2 (pick any two points and calculate $\frac{(y_2 - y_1)}{(x_2 - x_1)}$ to find the slope). So Plug these values into y=mx+b to get $y = 2x + 4 = C = 2h + 4$.

QUESTION 17
Choice B is correct. The minimum point on this graph is clearly when y=-5. But this question is asking the value of x at the minimum so trace up from that point and you should see that the x value is 3.

QUESTION 18
Choice A is correct. Start by plugging in (4,4) to both equations then you get: $4 < -4 - h$ and $4 > 4 - k$. Then simplify both equations by isolating the variables about you get: $h < -8$ and $k > 0$. This means that h has to be negative and k has to be positive so $h < k$.

QUESTION 19
Choice B is correct. For this problem you need to set up a system of equations. Make T the number of tires sold and R the number of reflectors sold. Then set up the equation 1 as $13T + 3.5R = 1,045$. Set up equation 2 as $T + R = 114$. Next isolate R in equation 2 by subtracting T from both sides and you get $R = 114 - T$. Then substitute $114 - T$ for R in equation 1 to get $13T + 3.5(114 - T) = 1,045$. Next use distribution and simple algebra to solve for T.

QUESTION 20
Choice D is correct. Start by calling the original price x. Now create an equation that describes the new price (m) in terms of x. So 30% discount means you're paying 70% of x so we can write this as $.7x$. The 3% sales tax means you're paying 1.03 times the discounted

price so we can write this as $1.03(.7x)$. So $m = (.7)(1.03)x$ but we want to isolate x so we divide both sides by $(.7)(1.03)$ and you get $x = \frac{m}{(.7)(1.03)}$ which is answer choice C.

QUESTION 21

Choice C is correct. "If a person is chosen at random from those who recalled at least 5 different spices" = 117 people. "What is the probability that person belonged to Group Y" = 63 (people who recognized 5 or more as well as were from group Y). Now you just set up a fraction: $\frac{63}{117}$.

QUESTION 22

Choice B is correct. Average rate of change = (budget in final year- budget in initial year)/span of years. In this problem that would be $(489,108 - 348,600) \div 2) = 70,254$.

QUESTION 23

Choice B is correct. "Ratio" just means proportion or fraction. So start by creating a fraction for Department of Defense's budget in 2013 to 2015→ $\frac{15,433,221}{13,334,321} = 1.16$. Since this is a calculator section the quickest way to finish the problem is then to just calculate $\frac{2015\ budget}{2013\ budget}$ for each category and see which one is closest to 1.16.

QUESTION 24

Choice D is correct. The equation of a circle is $(x - h)^2 + (y - k)^2 = r^2$ where h,k is the center and r is the radius. Step 1 is narrowing down the answers to either A or D because the center is at (0,-5) so the equation of the circle must be $x^2 + (y + 5)^2$. Step 2 requires finding the radius of the circle. The distance between the center and the endpoint is the length of the radius. So use the distance formula: $d = \sqrt{(x_A - x_B)^2 + (y_A - y_B)^2}$ To find the length of the radius. Then you pick whichever answer choice (D) has the correct value for r².

QUESTION 25

Choice D is correct. This is a very simple problem it just trips up students because of the physics vocabulary. Asking when the the object hits the ground is the same as asking what the value of t is when $h = 0$. So rewrite the equation as $0 = -16t^2 + 65t$ and then just solve for t. This is a calculator section, so you can graph the quadratic and find the intercepts or if students have a quadratic formula program on their calculator they can just plug in the a,b,c values and it will supply the answer. Lastly you could also do it by hand and factor out t so that you have $t(-16t - 65) = 0$ so either t=0 (not the answer we want) or $-16t + 65 = 0$ and you therefore $t = 4$.

QUESTION 26

Choice B is correct. $X = height\ of\ oak\ tree$ and $M = height\ of\ maple\ tree$. We can express the first sentence as $X = 1.3M$. Now plug in X as 156 and solve for M.

QUESTION 27
Choice C is correct. Start by summing the number of weeds in all the regions and divide it by 10 to get the average number of weeds per a 1m square. Next recognize that there will be 25 1 meter squares that will fit in the garden. So multiply the average number of weeds per a square by 25 and you should get around 4,750.

QUESTION 28
Choice C is correct. The easiest way to solve this is to just graph the two inequalities on your calculator and then see which quadrant has no shading. If students don't know how to graph inequalities on their calculators then use a video like this: https://bit.ly/2JwWIR4 to show them how.

QUESTION 29
Choice D is correct. This is true because of the remainder theorem. It is proven using polynomial long division. This video helps show how the theorem works: https://bit.ly/1VFmghq.

QUESTION 30
Choice D is correct. The vertex coordinates are (2,16). The only answer choice that displays these numbers as constants in the equation is D. To be safe it would also be a good idea to multiply out D to make sure it equals the original equation.

QUESTION 31
"Anything between 6 and 4.105" is correct. Pick any number between 13 and 19, let's say 15. So if she can make 15 cars per an hour and needs to build 78 cars you calculate $78 \div 15 = 5.2$ hours.

QUESTION 32
133 is correct. $7000 - 5000 = 2000$ so there are 2,000 pounds left to use up with weight from the suitcases. If each one weighs 15 pounds then calculate $2,000 \div 15 = 133.33$ so 133 suitcases would be below the limit.

QUESTION 33
5/16 is correct. Number of coffees sold is on the vertical axis so in 2007 there were about 50 million coffees sold and in 2011 there were 160 million coffees sold. Because this problem asks for a fraction we can ignore the "millions" because they will just cancel out. So we just set up a ratio of $\frac{50}{160}$ which can be simplified to $\frac{5}{16}$.

QUESTION 34
1860 is correct. First calculate how many people come for lunch over the course of a week. Each day they seat 60 people in the first seating and 60 people in the second seating for a total of 120 people for lunch a day. Lunch is served 5 days a week so $120 \times 5 = 600$ people

for lunch over the course of a week. Next do the same calculation for dinner. 60 people in each of the 3 seatings for dinner means 180 people a day for dinner. Dinner is served 7 days a week so $180 \times 7 = 1260$. Now simply add $1260 + 600$ and you get 1860.

QUESTION 35

8 is correct. *Volume of a cylinder* $= \pi r 2h$. So plug in the given volume and height values and you get: $112\pi = \pi r2 \times 7$. Divide both sides by 7π and you get $16 = r^2$ so $r = 4$ and diameter is $2r$ which is 8.

QUESTION 36

4 is correct. Whenever a question asks when a function is "undefined" look for square root of a negative number or division by zero. In this case we're looking for values of x that would cause the denominator to be zero. The easiest way to find these is to graph $y = (x - 6) + 4(x - 6) + 4$ on the calculator and find the zeros because the x-intercept is where the output (which in this case is the whole denominator) would equal zero.

QUESTION 37

1.03 is correct. If it earns 3% interest, then each year the initial 200 is multiplied by 1.03. So two years after the account is opened the value would be $200(1.03)(1.03)$ which is the same as $200(1.03)^t$ where t is the number of years.

QUESTION 38

13.34 is correct. To solve this problem start by solving for how much Chris will earn in 10 years: $200(1.03)^{10} = 268.78$. Now solve for how much Charles will earn after 10 years: $200(1.035)^{10} = 282.12$. Now simply find the difference between the two values: $282.12 - 268.78 = 13.34$. Remind students to avoid rounding until the end. Also remind them that 3.5% interest means 1.035 **not** 1.35 as this is a common mistake.