INTERPRETING YOUR RESULTS

After you check your answers on the following pages, fill out this sheet to interpret your results.

Analytical Writing

To evaluate your performance on the Analytical Writing sections, compare your response to the advice and samples in the Analytical Writing chapter.

Verbal Reasoning

Refer to the explanations to check your answers. Count the number of questions you got correct in each Verbal Reasoning section, and calculate the total number correct. Find the section of the Interpretive Guide (below) that corresponds to your total to get an idea of how your performance compares to that of other test takers.

Test 2	# Correct
Section 3	
Section 5	
Total	

Quantitative Reasoning

Refer to the explanations to check your answers. Count the number of questions you got correct in each Quantitative Reasoning section, and calculate the total number correct. Find the section of the Interpretive Guide (below) that corresponds to your total to get an idea of how your performance compares to that of other test takers.

Test 2	# Correct
Section 4	
Section 6	
Total	

Interpretive Guide

The table below provides a guide for interpreting your performance based on the number of questions you got correct in each subject.

Subject	Above Average	Average	Below Average
Verbal Reasoning	30–40	22–29	1–21
Quantitative Reasoning	33–40	24–32	1–23

Section 3

1. **inflection** and **utilized**

For the first blank, the trigger "more important" tells you to change direction from "actual words." Also, *sarcastically* is an example of tone. Look for a choice that means tone. *Inflection* fits tone. *Pitch* is nonverbal, but it does not match the example of sarcastically. *Accuracy* does not fit. For the second blank, look for a word that means *conveyed* or *spoken*. *Utilized* is the best match. *Implied* and *repudiated* don't fit.

2. **expressive**, **relegated**, and **conflict with**

Try working with the first blank first. The clue is *artistic*, and the trigger *and* indicates the first blank should be a word that is the same as artistic. *Expressive* is the best choice; neither *tedious* nor *tiresome* works. *Though* changes the direction of the sentence—though the studio likes the creative/artistic aspect, something negative must be happening to creativity—it's brought down to a secondary position. Eliminate *uplifted* and *compared* for blank (ii) because they are not negative, and choose *relegated*. Turning to the third blank, "organization and hierarchy" are in opposition to *creativity*, and *conflict with* makes the most sense.

3. **axiomatic**

You are given the clue that the beliefs "are in conflict" and "cannot all be correct." Therefore, whatever goes into the blank must be synonymous with *correct* or something we can infer correctness from. The correct answer is *axiomatic*, which means self-evident or universally true. *Disputable* is the opposite of what the sentence requires, and *ubiquitous*, and *historic* are not synonymous with self-evident. Although *empirical*, meaning derived from observation, might fit science, it is not a good fit for religion.

4. **staved off**, **contributed to,** and **affliction**

The clue "Although most medical, preventative ointments commonly in use" tells you that most ointments would prevent an infection, but the one Helen used did not. Recycle the clue, and put a word that means prevent in the first blank; *staved off* is the best match. Work with the second and third blanks together. The ointment did not prevent an infection, and the clue "much to her dismay" tells you that something bad happened. The only pair that makes sense together is *contributed to* and *affliction* because they tell you that the ointment made her problem worse.

5. **glib, spontaneity,** and **tepid**

For the first blank, the clue is *offhand remarks,* so the blank means something like "offhand." *Glib,* which means "superficial or showing a lack of concern," is the closest match for this. Sticking to *prepared talking points* can result in a lack of "excitement" or "naturalness," which *spontaneity* matches. For the last blank, you know the crowd's responses are *lukewarm,* so the answer for that blank is *tepid*.

6. **shallow**

The clue is the entire clause that follows the semicolon, "its characters take trivial concerns seriously while thoughtlessly dismissing important ones." Look for a word that means superficial or petty to go in the blank. The only one that fits is *shallow*.

7. **B**

The third paragraph states that if too much Haber nitrogen were applied, "the wheat crop would grow taller and thicker, eventually toppling over and rotting." Losing a crop would be an undesirable effect, making choice (B) the best answer. Eliminate choice (A) because the passage doesn't compare the effects of Haber nitrogen on different kinds of crops. The passage doesn't provide any information to support choices (C) and (D). Choice (E) contradicts the passage, which says the farmers were wary of the substance.

8. **E**

According to the first paragraph, there has been no sharp decline in the world's population and, therefore, we can surmise that food production has been sufficient to allow for the existing population growth, as in answer choice (A). In the second paragraph, the author mentions the invention of the tractor as one of the factors that allowed more crops to be grown for human consumption. This reflects the technological innovation in answer choice (B). In the last paragraph, the author notes that the environmental movement has opposed efforts at genetic engineering. Thus, answer choice (C) is implied as well. The author notes that increases in crop production through the invention of the tractor and ammonia prevented Malthus's predictions from being realized, and this rules out answer choice (D). The extent of the impact of genetic engineering is not clear. We don't know that a Malthusian disaster would have been a *certainty* without genetic engineering. Therefore, the correct answer is choice (E) because it is not implied.

9. **D**

The first paragraph states that Malthus believed that "population increases in a geometric ratio, while the means of subsistence increases in an arithmetic ratio." More simply put, Malthus argued that population growth happens at a significantly faster rate than food production. Only answer choice (D) demonstrates this.

10. **E**

The first paragraph presents Malthus's prediction about what would happen if population growth were to outstrip food production. If there were too many people and not enough food, you would expect a significant or rapid population decline. Look for a word to replace *precipitous* that is similar to *significant* or *rapid*. *Sharp* is the best word.

11. **B**

The "rosy prospect" refers to the previous paragraph's discussion of the booming tourism industry in Australia, which implies a positive future, and the "cloud on the horizon" refers to the conflict between the rights of the Aborigines and the need for the money from tourism, a potential problem. Choice (A) incorrectly interprets the quote as referring to a literal *horizon and prospect*. Choice (C) is also too literal, taking *prospect* to mean view. Choice (D) is incorrect because, although this may be true based on later information in the passage, it is not an accurate interpretation of this phrase. Choice (E) is too strong because the future is described as generally good, not hopeless.

12. **A, B,** and **C**

All three statements are given as sources of the conflict. Choice (A), economic hardship, is mentioned in the third paragraph. Due to financial difficulties, many regions are unwilling to give up the income derived from tourists visiting Aboriginal lands. Choice (B) is discussed in the second paragraph. The expansion of Western culture is the reason that the Aborigines have moved inland and abandoned other sacred sites. Choice (C) is mentioned in the first sentence. Tourism is described as particularly important due to the "dearth of natural resources."

13. **morose** and **dour**

The first part of the clue is "mercurial character," which means George's moods change frequently. The second part of the clue is "one moment he was optimistic about his prospects," and the trigger is "the next he was." Thus, the blank should be the opposite of optimistic; look for words that mean pessimistic. *Morose* and

dour are both similar to pessimistic. *Hopeful* and *buoyant* have the opposite meaning, and *witty* and *immoral* are not related.

14. **tyro** and **neophyte**

The clue is that she "began her first job." Also, the contrast of "wealthy suburb" and "llama caretaker on a rural farm" suggests that she'd feel out of place or lacking in experience at her first job. Look for words that mean *beginner*. *Tyro* and *neophyte* are the only words that mean *beginner*. *Agronomist* and *cultivator* are traps for people who focused too heavily on the farm. *Concierge* and *curator* are traps for people who focused too heavily on *caretaker*.

15. **embellished** and **colored**

The clue "King Duncan's death at the hand of Macbeth comprises the play's only historical truth" tells you that the version of events related in Macbeth was not very accurate. Does *anachronistic* mean *inaccurate?* No; cross it out. What about *effusive*? No. In contrast, *embellished* works well, but *prosaic* and *serpentine* do not. Finally, *colored*—which, like embellished, means *misrepresented* or *distorted*—fits the blank nicely.

16. **thewy** and **sinewy**

The word that goes into the blank describes superheroes, of whom the clue phrase states that "every detail of their musculatures would be visible through their clothing." Clearly, something like *muscular* is called for, and both *thewy* and *sinewy* fit the bill. The other four words don't fit: *Superfluous* means *unnecessary, pneumatic* means full of air, *flocculent* means covered in wool, and *atrophied* means shriveled due to disuse.

17. **A** and **C**

Answer choice (A) is correct because the passage states that "… without this mundane structure, every cell division would be a step into senescence, and the onset of old age would begin at birth." Choice (B) is not correct because we have no information about what scientists used to think about telomeres. Choice (C) is correct because we are told that one function of telomeres is to mitigate the loss of DNA bases. If no bases are lost, then this role is not important any more.

18. **A**

The first paragraph says that without telomere buffers "every cell division would be a step into senescence, and the onset of old age would begin at birth," and the

last sentence of the passage states that "many ailments associated with normal old age begin only after the telomere buffer has been exhausted through years of cell division." If the protection offered by the buffers didn't exist, you could expect problems related to aging to start sooner, as choice (A) suggests. Choice (B) goes too far; though the passage speaks on the onset of old age at birth, we can't be sure that almost no one would live past childhood. The passage provides no support for choices (C), (D), or (E).

19. **B**

The passage as a whole provides a short history of two types of early musical education, the rote method and the note method. Nowhere in the passage does the author come out in favor of either method, thereby ruling out choices (A) and (C). Given that Reverend Walter taught music by the note method he developed, answer choice (D) doesn't make sense. While it is true that rote learning was inconsistently practiced, as choice (E) states, this does not answer the question.

20. **"The 'note versus rote' controversy in music education continued well into the mid-nineteenth century."**

The use of the word "controversy" in the final paragraph is the only indication the author gives that the decision between "note" or "rote" as a musical learning technique was in any way contentious.

Section 4

1. **C**

When there are large exponents to work with and you cannot apply any of the exponent rules, you need to think about factoring to find common bases. In Quantity A, 98^7 can also be expressed as $14^7 \times 7^7$. Quantity A is now reduced to $\frac{14^7 \times 7^7}{7^{63}} = \frac{14^7}{7^{56}}$. The numbers are still too large to compare with Quantity B, and since the bases in Quantity B are prime numbers, try to reduce Quantity A even further. $14^7 = 2^7 \times 7^7$, so the expression can be re-written as $\frac{14^7}{7^{56}} = \frac{7^7 \times 2^7}{7^{56}} = \frac{2^7}{7^{49}}$. The quantities are equal, the answer is choice (C).

2. **A**

Translate and solve each expression. The expression "5 is r percent of 25" becomes $5 = \frac{r}{100} \times 25$. So, $r = 20$. The expression "s is 25 percent of 60" becomes $s = \frac{25}{100} \times 60$. So, $s = 15$, and Quantity A is greater.

3. **A**

Plug In for this question. Let $h = 3$, which makes $g = 6$. Quantity A equals $\frac{6}{1} = 6$ and Quantity B equals $\frac{1}{3}$. Quantity A can be greater than Quantity B, so eliminate answer choices (B) and (C). Because g and h are positive integers, Quantity A will always be greater than 1 and Quantity B will always be less than or equal to 1. Quantity A will always be greater than Quantity B.

4. **B**

The average is the sum divided by the number of elements. Because three elements make up both averages, you can simply compare the sum of each set. $67 + 78 + 101 + x = 246 + x$, and $66 + 79 + 102 + x = 247 + x$. Thus, Quantity B is

greater.

5. **A**

Plug In! Say there were 10 million tons in 1988. The percent increase was $\frac{0.79}{10}$. Then in 1989 there were 10.79 tons, so the percent increase from 1989 to 1990 was $\frac{0.79}{10.79}$. Quantity A must be greater.

6. **D**

Plug In. Make $m = 2$ and $n = 3$. For Quantity A, the weight of 2 peanuts at $3 + 3$ mg each is $2 \times 6 = 12$ mg. For Quantity B, the weight of 3 almonds at $2 + 3$ mg each is $3 \times 5 = 15$ mg. Eliminate choices (A) and (C). Plug In again to see if you can get a different result. Keep $m = 2$, and change n to 2. For Quantity A, the weight of 2 peanuts at $2 + 3$ mg each is $2 \times 5 = 10$ mg. For Quantity B, the weight of 2 almonds at $2 + 3$ mg each is $2 \times 5 = 10$ mg. Eliminate choice (B), and choose choice (D).

7. **C**

Remember when you have large exponents, try to break them down into their prime factors. You can rewrite Quantity A as $5^{27}(5)(115)$, or $5^{28}(115)$. The quantities are equal.

8. **B**

For Quantity A, there are three ways to get an even number (these are 2, 4, 6). So, the probability of "rolling an even" and then "rolling an even" is $\frac{3}{6} \times \frac{3}{6} = \frac{1}{4}$. For multiple independent events, multiply the probabilities. For Quantity B, there are four ways to not get a multiple of 3 (these are 1, 2, 4, 5). The probability of "not rolling a multiple of 3" then "not rolling a multiple of 3" is $\frac{4}{6} \times \frac{4}{6} = \frac{4}{9}$. Quantity B is greater than Quantity A.

9. **B**

There are variables in the answer choice, so Plug In. If $r = 2$, then $4((2) - s) = -2$. Divide both sides by 4 to find $2 - s = -0.5$. So, $s = 2.5$. The target answer

is *r*, which is 2. Go to the answer choices and Plug In 2.5 for *s*. Answer choice (B) is the only answer choice that matches your target of 2.

10. **10.5**

Plug In! Let's say there are 100 employees. 25% of the employees take the subway to work, so $\frac{25}{100} \times 100 = 25$. Of the 25 employees who ride the subway, 42% of them transfer during the commute so $\frac{42}{100} \times 25 = 10.5$. Therefore, 10.5 out of 100 employees transfer lines. This is 10.5%.

11. **D**

Plug In. If $a = 3$, $b = 6$, $c = 3$, $d = 5$, and $e = 10$, the value of the equation is $\frac{10\left(3+\frac{6}{3}\right)}{5} = 10$

Half of 10 is your target of 5. Try doubling each variable to find the one that yields 5. The only one that works is doubling *d* to 10 so that the equation is $\frac{(10)\left(3+\frac{6}{3}\right)}{10} = 5$

12. **C**

For this question, you can FOIL: $(\sqrt{5})^2 - (\sqrt{3})(\sqrt{5}) - (\sqrt{5})(\sqrt{3}) + (\sqrt{3})^2$. This simplifies to $5 - 2\sqrt{15} + 3$, or $8 - 2\sqrt{15}$.

13. **A**, **C**, **D,** and **E**

Plug the information given into the formula for the area of a triangle to learn more about the relationship between *x* and *y*: $A = \frac{bh}{2} = \frac{xy}{2} = 108$. The product of *x* and *y* is 216, so *x* needs to be a factor of 216 . The only number in the answer choices that is not a factor of 216 is 5. The remaining choices are possible values of *x*.

14. **B**

Europe's electricity production (2,000 megawatt-hours) most closely matches that of Asia (1,900 megawatt-hours).

15. **E**

The ratio for North America is 2300 to 0.083 or, $\frac{2300}{0.083} = 27710$. This is the greatest ratio of any of the countries.

16. **A**

Africa's population is 10.6 percent on the pie chart; South America's is 7.9 percent. Right away, you can eliminate all of the answer choices that are smaller than 368. Now you are left with choices (A) and (B). Because the question gives you South America's population (368 million), you can use a proportion to find the population of Africa. The proportion would look like this: $\frac{0.079}{368} = \frac{0.106}{x}$, where x is equal to the population of Africa. Cross-multiplying gives you $0.079 \times x = 0.106 \times 368$, and $x = 493.7$.

17. **A**

If the average of 5 crates is 250, then their total $= 5 \times 250 = 1{,}250$. To find the high end of the range for the fifth crate, make the other crates as light as possible: Make the two lightest crates 200 each, for a total of 400, and the two heaviest crates 300 each, for a total of 600; together, those four crates weigh 1,000 pounds, leaving 250 pounds for x. Because only choice (A) sets 250 pounds as the high end, you can eliminate choices (B), (C), (D), and (E).

18. **B**

Substitute 6 for x in the equation, $s_x = 2s_{x-1} + s_{x-2}$ and work carefully from there. $s_6 = 2\,s_{6-1} + s_{6-2}$, which simplifies to $s_6 = 2s_5 + s_4$. However you don't know s_5 or s_4. Use the equation to find these missing terms. $s_4 = 2s_3 + s_2$. and the problem tells you s_2 and s_3 are equal to 2. $s_4 = (2 \times 2) + 2$, which is 6. Now you need to find s_5. Using the equation, you get $s_5 = (2 \times 6) + 2$, which is 14. Now

that you know s_5 and s_4, go back to your original equation, $s_6 = 2s_5 + s_4$, and $s_6 = (2 \times 14) + 6$, which is 34.

19. **7**

Always draw a figure when one is not provided. In this case, line segment *XZ* has a length of 68. Point *Y* is the midpoint of the segment, and $2XY = XZ$. To find the lengths of these segments, divide 68 by 2. Segment $YZ = 34$. Because $YZ = 4a + 6$, you know that $34 = 4a + 6$, and $a = 7$.

20. **C**

Make a spot for each day, and fill in the number of guests who could occupy that spot. Burke has 5 choices for Monday, 3 choices for Tuesday, 4 choices for Wednesday (because one politician was chosen on Monday), 6 choices for Thursday, and 10 choices for Friday (because 4 of the 14 potential guests have already been chosen). Multiply these to arrive at 3,600 different schedules.

Section 5

1. **systematic**

The clue is "simple, unambiguous, and unchanging." The trigger word is "in other words." The trigger word maintains the direction of the clue. Therefore, find a word that means regimented. *Systematic* is the best match.

2. **obdurate** and **capitulate**

Try working with the second blank first. The second blank is talking about what a player will be forced to do if they are stubborn. The clue is that the *mistakes* the player makes will lead to the *prevailing strategy of their opponent*. Because of these clues, we know that a word that means "to give in" would be a good match. *Capitulate* is the only word that works as *dissent* means to disagree and *repudiate* means to reject. Now look at the first blank. The first blank is referring to something all great chess players know. The clue tells us that they know *stubbornness will lead to mistakes that will force a player to capitulate to the prevailing strategy of their opponent*. As you can see, we needed to solve for the second blank first, as we would not have known what *stubbornness* would lead to without doing so. Recycle the word *stubbornness* as your word for the blank. *Obdurate* is the only word that works for the first blank. *Finicky* means to be overly particular and *vituperative* means to be combative.

3. **corruptibility, venal**, and **redundancy**

The first two blanks are related, but there isn't a strong clue for either one in the first part, so let's start with the third blank. Since the motif is *tiresome,* the third blank must mean something close to "repetitive." *Redundancy* matches this. At the end of the paragraph, each character is *bribed … into giving up … beliefs*. So the first two blanks must mean "bribable." *Corruptibility* in the first blank and *venal* in the second both match this.

4. **illegal** and **unabashedly**

For the first blank, the clues "pirating software" and "downloading software from unapproved sources" describe unauthorized activities, and *illegal* is the best fit. *Uncommon* and *difficult* are incorrect because the sentence says that "many people continue to do so." If people are doing something despite its illegality and "almost as if they were unaware that such acts amount to theft" you could describe them as acting *brashly*. *Unabashedly* is the best fit.

5. **insolvent**

The phrase "squandered his life's savings on unprofitable business ventures" tells you that the entrepreneur had no money left. The blank needs a word that means broke. *Former* and *unlikely* are tempting choices, but they don't match broke. Eliminate them. *Eccentric* also doesn't match, while *perturbed* only describes the entrepreneur's possible feelings. *Insolvent* agrees with the clue, so keep it.

6. **eschew obfuscation**, **recondite**, and **limpid**

The key clue is that the teachers urge students to "use clear, simple language." The trigger *instead* indicates that the phrase that goes into the blank will present an alternative to using clear, simple language, while the *and* indicates that the phrase will nevertheless agree with the clue. Something like "avoid difficult language" would be best: Difficult language is the alternative to clear, simple language, but the two phrases still agree because the difficult language is something to avoid. Thus, *eschew obfuscation* is best: *Eschew* means avoid, while *obfuscation* means the act of hiding the meaning of something. *Exscind obloquy* means to cut out critical language, while *evince ossification* means to show excessive rigidity, neither of which is appropriate here. The second blank needs a word that means difficult or obscure because teachers call into question the use of difficult vocabulary; recondite means obscure and hard to understand. *Recreant* means cowardly; *redolent* means fragrant. The final blank requires a word like *clear* because that is the type of language that "conveys one's meaning so much more effectively." *Limpid* means easily understood, and so is correct.

7. **A** and **C**

Answer choice (A) is supported because the passage says that myelin protects the brain's circuitry. Answer choice (C) is supported by the fact that "as humans mature" increasing levels of myelin need to be produced. While the passage suggests that a lack of myelin leaves the brain vulnerable, that doesn't mean that increasing the levels of myelin will reverse damage.

8. **B**

In the passage, *byzantine* refers to the "circuitry inside our nervous systems." Previously, the circuitry is described as growing more complex, so you need to find a word with a similar meaning. Answer choice (A) is an alternate meaning for byzantine, but is not supported by the passage. Answer choices (C), (D), and (E) do not have meanings similar to complex.

9. **D**

The argument concludes that large universities should utilize work-study students rather than administrative assistants. The premise is that a similar strategy realizes a cost savings at small colleges. This is an argument by analogy. Hence, the argument assumes that there are similar conditions at small colleges and at large universities. Choice (D) says that students at universities are just as qualified to take over the administrative roles as they are in small colleges. In other words, the administrative jobs at universities are not appreciably different than those at colleges. For choice (A), whether the practice would be of greater benefit to the small colleges is out of scope. For choice (B), whether large universities usually depend on small colleges for ideas is out of scope. For choice (C), the issue of non-work-study students is out of scope. For choice (E), whether anyone has an easier ride than anyone else is out of scope.

10. **A**

The first paragraph acts as an introduction to the rest of the passage. The author notes that in the nineteenth century "investments became increasingly speculative." In the last paragraph, the author explains that due to fluctuating interest rates, the consol was popular with speculative investors. There is no support in the passage for (B), (C), or (D). Although the first paragraph provides a historical framework, as suggested in answer choice (E), it does not provide a way "by which the nature of the nineteenth-century investor" could be understood.

11. **To address the problem, the British government instituted a sinking fund, using tax revenue to buy back the bonds in the open market.**

The second paragraph has five sentences so this question has five answer choices. The third sentence begins, "To address the problem…." This is a clear indication that the sentence describes a solution to a problem. The correct answer is the third sentence.

12. **rarefied** and **meager**

What sort of atmosphere would make Mars the only planet "whose surface details can be discerned from Earth?" You need a word that means *transparent* or *thin* for the blank. *Viscous* takes you in the wrong direction, so toss it. The next choice, *ossified*, makes no sense; toss that one, too. In contrast, *rarefied* works well, so hang onto it. Meanwhile, a *copious* atmosphere would definitely not be easy to see through, so cross out that choice. *Meager* fits nicely and agrees with *rarefied*, making those two the best answers.

13. **adversity** and **tribulation**

The clue is "Using the hardships of the Joad family as a model." Recycle *hardships*, and use POE. Does *reticence* mean *hardships?* No; cross it out. *Adversity* works, so leave it. Do the same for the remaining choices. Only *tribulation* agrees with *hardships,* so that's the other correct answer.

14. **a venerable** and **an august**

The blank is a description of the pyramid. The clue is "imposing structure" because this is the only other description of the pyramid. *Venerable* and *august* are the only words that match *imposing*.

15. **noisome** and **mephitic**

The word that fills the blank must describe "the stench of the livestock," which is so malodorous that it drives the newcomers back to the city; it must mean something like, well, *stinky*! Both *noisome* and *mephitic* are appropriate choices. The other words don't work; if you were tempted by *olfactory*, realize that it simply means "related to the sense of smell" and does not actually describe a particular scent.

16. **B**

Answer choice (B) correctly sums up the purpose of the passage: It explores the significance—the creation of a military aristocracy and chivalric culture—of a technological innovation—the stirrup. Choice (A) is incorrect because nothing in the passage suggests that this discussion has a basis in recent discovery. Answer

choice (C) is too broad for the limited subject matter discussed. Choice (D) is too extreme. Answer choice (E) is incorrect because the physics, while important in connecting the stirrup to its social effects, isn't really the point of the passage—and, in any event, the physics relates to cavalry, not artillery.

17. **E**

Answer choice (E) is supported by the passage because the sixth sentence suggests that the development of the barbed lance serves as an "unusually clear" marker. Choice (A) is incorrect because no additional subjects for research are brought up in the passage. Choices (B) and (C) require comparisons beyond the scope of the information in the passage: No other technology, ancient or medieval, was discussed. Answer choice (D), finally, is an extreme overstatement: Although the stirrup increased the military value of the horse, nowhere is it suggested that it had previously been considered militarily insignificant.

18. **"Stirrups unify lance, rider, and horse into a force capable of unprecedented violence."**

In this sentence, the author says that stirrups improve the ability of a lance and rider. This is an improvement on the issues discussed earlier when the author states that a "lance couched under the rider's arm, unifying the force of rider and weapon, would throw its wielder backwards off the horse at impact."

19. **D**

Choice (D) describes the organization of the passage. Answer choice (A) can be eliminated because the traditional definition is never amended. Answer choice (B) can be eliminated because the authorities do not support the traditional theory. Answer choice (C) can be eliminated because no new definition is proposed. Answer choice (E) can be eliminated because the "implications of the experiment" are not rejected.

20. **A** and **B**

The author's dismissal of the traditional definition of randomness rests upon the premises that the results of the same probabilistic mechanism will all have the same likelihood of occurring, and, as such, should be considered equally probable. The passage never mentions how the results of different probabilistic mechanisms relate to each other, so eliminate choice (C).

Section 6

1. **A**

Solve for x in the top equation, $\frac{x}{6} + 2 = \frac{6}{2}$, by reducing the right side: $\frac{x}{6} + 2 = 3$. Subtract 2 from both sides, and multiply both sides by 6 to find that $x = 6$. Solve for y in the second equation, $\frac{y}{3} + 2 = \frac{9}{3}$, by reducing the right side: $\frac{y}{3} + 2 = 3$. Subtract 2 from both sides, and multiply both sides by 3 to find that $y = 3$. If $x = 6$ and $y = 3$, Quantity A becomes $\frac{5}{3}$, and Quantity B becomes $\frac{2}{6} = \frac{1}{3}$.

2. **A**

Use the equation *distance* = *rate* × *time*. Bob's time is 3 hours, and his rate is 44 miles per hour, so his distance is $3 \times 44 = 132$ miles. Inez's time is 2.5 hours, and her rate is 50 miles per hour, so her distance is $2.5 \times 50 = 125$ miles.

3. **A**

Plug In numbers! Let's say that the height is 10, depth is 20 and the width is 20. If the height is increased by 20%, the new height is 12. If the depth is decreased by 20%, the new depth is 16 and the width remains 20. The new volume is $12 \times 16 \times 20 = 3840$. If you use those same numbers but make the changes by 40%, the new volume is $14 \times 12 \times 20 = 3360$. Quantity A is greater. However, make sure you switch the numbers to check all possibilities. Make the height 20, the depth 10 and the width 20. The volume of the new 3D figure if p is 20 is $24 \times 8 \times 20 = 3840$. The volume of the new 3D figure if p is 40 is $28 \times 6 \times 20 = 3360$. The quantities are the same regardless of what number you plug in. The answer is (A).

4. **D**

Draw the figure. Triangle ABC has two adjacent sides, AB and AC, that are equal in length. The angles that are opposite these sides, angles B and C, are also equal. One common triangle that has two equal sides is the 45:45:90 triangle. If angles B and C were both 45 degrees then their sum would be 90 and the answer would be (C). However, we know nothing about the third side of the triangle so it is possible that this is equal as well, which creates an equilateral triangle with angles of 60. The sum of the angles in Quantity A is now 120. You cannot determine which is greater, therefore the answer is (D).

5. **A**

Translate: $\frac{12.5}{100}k = 80$, so $\frac{1}{8}k$, and $k = 640$. Use this information in the other equation: $k = 640 = \frac{y}{100} \times 80$ and solve for y: $y = \frac{10}{8} \times 640 = 800$ Quantity A is greather than Quantity B.

6. **D**

Plug In values for each set. If $P = \{1, 2, 3, 4, 5, 6, 7\}$ and $Q = \{1, 2, 3, 4, 5, 6\}$, the range of Q is smaller. Eliminate choices (B) and (C). If you change P to {1, 2, 3, 4, 5, 7, 6}, and Q to {1, 2, 3, 4, 5, 7}, the range of Q is equal to that of P. Eliminate choice (A), and select choice (D).

7. **A**

One way to attack this problem is to list F_1 to F_{11}: 10, 13, 16, 19, 22, 25, 28, 31, 34, 37, 40. Notice that F_6 through F_{10} are included in both quantities, so focus on what's different. Quantity A is $F_4 + F_5$ and Quantity B is F_{11}. Quantity A is $19 + 22 = 43$, and Quantity B is 40. Alternatively, you know that F_4 has had 3 changes from F_1. So, $F_4 = F_1 + 3(3) = 10 + 9 = 19$. F_5 has had 4 changes from F_1, so $F_5 = F_1 + 3(4) = 10 + 12 = 22$. F_{11} has had 10 changes from F_1, so $F_{11} = F_1 + 3(10) = 10 + 30 = 40$.

8. **C**

Plug In a number for n. Let $n = 5$. Because $5 \times 6 = 30$, the product is 30. Add 24 to get 54. Divide by 3 to get 18 as your target. If you Plug In 5 for n in each answer choice, only choice (C) matches the target: $2n + 8 = 2(5) + 8 = 18$.

9. **10**

If the average of a and b is 10, then $a + b = 20$. Likewise, if the average of c and d is 7, then $c + d = 14$. If the average of a, b, and c is 8, then $a + b + c = 24$. Because $a + b = 20$, $c = 4$. If $c = 4$, then $d = 10$.

10. **C**

To find the area of a square, you need the length of a side. To find a side, find the distance between two vertices. If A is at (3, 7) and B is at (3, 12), then length of a side is equivalent to the difference in the y-coordinates: $12 - 7 = 5$. So, side AB

has a length of 5. Square this to find the area: $5^2 = 25$. The fact that there are variables for the y value of points C and D is irrelevant to solving this problem.

11. **B**

Get Dylan's median by putting his weekly sales into increasing order and finding the middle value. Dylan's set is {2, 3, 9, 10}, and his median is the average of 3 and 9, or 6. Next, do the same thing for Peter's sales numbers. Peter's set is {4, 4, 6, 10}, so his median is the average of 4 and 6, which is 5. The difference between the medians is $6 - 5 = 1$.

12. **A**

Order doesn't matter, so remember you must divide by the factorial of the number of decisions made. For the first topping, you have 6 options. For the second topping, you have 5 options. For the third topping, you have 4 options. $\frac{6 \times 5 \times 4}{3 \times 2 \times 1} = 20$. Answer choice A.

13. **E**

Because you know the perimeter of the rectangle, you can figure out that both BC and $AD = 5$. Thus, the area of the rectangle is $3 \times 5 = 15$. The area of the triangle is therefore also 15. Because the area of a triangle $= \frac{1}{2}bh$, you can put in the values you know to find $15 = \frac{1}{2}(b \times 5)$ and solve for the base, which is 6. LM is the base of the triangle, so $LM = 6$.

14. **C**

From 1981 through 1984, the ratings for Program y were higher than they were in the previous year.

15. **E**

There were 95 million times 80 percent, or 76 million, television households in 1983. Thirteen percent of them viewed Program y. 76 million times 13 percent (0.13) is 9.88 million, or approximately 10.

16. **57.6%**

The number of television households that were viewers of Program x is 3.1 million. The number of television households that were viewers of Program y is 2.6 million. Set up the percent change formula, so $\frac{3.1 - 2.6}{2.6} \times 100 = 57.6\%$.

17. **A**

Plug In the answer choices, starting with choice (C). If Susan owns 146, Gavin owns 246, and together they own 392. Matt and Angela together would own 784, and the total number of houses would be 1,176. Choice (C) is too large, so also cross off (D) and (E). Try a smaller number. For choice (A), if Susan owns 46, Gavin owns 146, and together they own 192. Matt and Angela together would own 384 and the total number of houses would be 576.

18. $\frac{7}{45}$

Plugging In your own number is a great way to tackle this question. Multiply the denominators of $\frac{1}{4}$, $\frac{1}{5}$, and $\frac{1}{3}$together to get 60, which will be an easy number with which to work. Make the total number of cars 60. $60 \times \frac{1}{4} = 15$ sports cars, and $60 - 15 = 45$ sedans. The number of red cars is $60 \times \frac{1}{5} = 12$. The number of red sports cars is $15 \times \frac{1}{3} = 5$, which means that there are $12 - 5 = 7$ red sedans. The fraction of the sedans that are red is $\frac{7}{45}$.

19. **A** and **B**

Plug In the answer choices. Start with one of the middle values, such as choice (C). If there are 18 grape candies, then there are 40 total candies in the jar. The probability of selecting an orange candy is $\frac{8}{40}$ or 20 percent. The question states that the probability of selecting an orange candy is greater than 20 percent, so choice (C) cannot work. Values larger than 18 also do not work because when the denominator becomes larger than 40, the probability becomes less than 20

percent. The only choices that could work are (A) and (B).

20. **E**

Plug In for k, and let $k = 3$. CE is a radius and also half of the square's diagonal. If k is 3, then CE is 3, and the diagonal is 6. The diagonal of a square is also the hypotenuse of a 45 : 45 : 90 triangle. To get the hypotenuse from a side, you multiply by $\sqrt{2}$; so, to get a side from the hypotenuse, divide by $\sqrt{2}$. The sides of the square are each $\frac{6}{\sqrt{2}}$. To find the area, square the side to find $\left(\frac{6}{\sqrt{2}}\right)^2 = \frac{6^2}{\sqrt{2}^2} = \frac{36}{2} = 18$. Plug $k = 3$ into the answers to find one that yields your target of 18. Answer choice (E) yields the target of 18.