



**CLAST PRACTICE  
TEST and  
ANSWERS**

## CLAST PRACTICE TEST

On the following pages you will find a Practice CLAST test that has been created by an algorithmic test generator. The test has 55 questions and is similar to the CLAST test you will have to take.

You have 90 minutes to take this test. Circle the letter corresponding to the answer you think is correct. The actual answers appear after the practice test in the section entitled **Answers to CLAST Practice Test**. You need anywhere from 34 to 38 questions correct, depending upon the difficulty of the form of the CLAST you are administered, to "pass" this test. Here is a formula we have developed through several years of experience. Write the number of correct answers you have on the **CLAST Practice Test**. Multiply the number by 1.5 then add 245. The number you get is our *predicted* score on the real CLAST test. Algebraically, this means that if you have C correct answers, your *predicted* CLAST score is:

$$S = 1.5C + 245$$

You want to do better? Look at the answer section and circle the questions you missed. Review the section and examples indicated under **REVIEW SECTION** and **REVIEW EXAMPLE**. Note that specific page numbers are cited for each question. Plan to master the recommended sections and examples before you take the actual CLAST test.

Remember that you can prepare even further by taking the additional Practice Test at the end of each Chapter as well as the additional CLAST Practice Test appearing at the end of the book, after the Glossary.

You can also look at the video that accompanies this manual. The exercises throughout this manual whose numbers appear in a box (like  $\boxed{7}$ , for example), will have their solutions explained in detail in the video. When working the CLAST Practice Exercises, note which problems are boxed so you can watch the video and actually see how they are solved!

You can also view the 5 subject-area videos that accompany this manual. The examples covered in the video are also in the manual. They will help you master each of the areas covered in the CLAST test.

**Good luck on your CLAST test!**

<b>PRACTICE CLAST TEST AND ANSWERS</b>
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1. Find:  $\left(-\frac{11}{32}\right) \div \left(-\frac{1}{4}\right)$
- A)  $-\frac{8}{11}$                       B)  $-1\frac{3}{11}$                       C)  $1\frac{3}{11}$                       D)  $\frac{8}{11}$
2. Find:  $(7^4)(3^2)$
- A)  $(7 \times 3)^8$                       B)  $(7 \times 7 \times 7 \times 7)(3 \times 3)$   
 C)  $(7 + 7 + 7 + 7)(3 + 3)$                       D)  $(7 \times 4)(3 \times 2)$
3. What is the place value associated with the underlined digit?  
 3.8456(base ten)
- A)  $\frac{1}{10^2}$                       B)  $\frac{1}{10^0}$                       C)  $\frac{1}{10^8}$                       D)  $\frac{1}{10}$
4. Twenty individuals work for a company. The lowest paid person earns \$170 per week and the highest paid person earns \$240 per week. Which of the following values could be a reasonable estimate of the total weekly payroll for the company?
- A) \$205                      B) \$8200                      C) \$2000                      D) \$4000
5. Subtract:  $-10.27 - 1.978$
- A) 8.292                      B) -12.248                      C) -12.005                      D) -8.292
6. Find an equivalent form of  $\frac{13}{25}$ .
- A) 5.2%                      B) 0.052                      C) 0.52                      D) 0.52%
7. Insert =, <, or > to make a true statement:  $1.1\bar{8}$  \_\_\_  $1.\bar{1}8$
- A) <                      B) Not given                      C) =                      D) >

8. Look for a common linear relationship between the numbers in each pair. Then identify the missing term.

$$(2, 1) \quad (0.4, 0.2) \quad (-4, -2) \quad \left(\frac{1}{8}, \frac{1}{16}\right) \quad (16, 8) \quad \left(\frac{1}{4}, \text{---}\right)$$

A) 8                      B)  $\frac{1}{2}$                       C) 2                      D)  $\frac{1}{8}$

9. If 40 is decreased to 16, what is the percent decrease?

A) 40%                      B) 24%                      C) 60%                      D) 6%

10. Find  $50\frac{1}{2}\%$  of 10.

A) 50.5                      B) 0.505                      C) 0.02                      D) 5.05

11. With Tony's new car, he is using only 68% as much gasoline per month as with his old car. He was using 136 gallons of gasoline per month with his old car. How much gasoline per month does Tony save with his new car?

A) 46.2 gal                      B) 43.5 gal                      C) 9.2 gal                      D) 92.5 gal

12. A 12-ounce can of lemonade concentrate costs \$0.96, and a 30-ounce can costs \$4.50. How much money can be saved by buying 240 ounces of the more economical size?

A) \$3.54                      B) \$19.20                      C) \$36.00                      D) \$16.80

13. How many whole numbers leave a remainder of 2 when divided into 34 and a remainder of 3 when divided into 19?

A) 2                      B) 3                      C) 5                      D) 4

14. Simplify:  $9\pi + 2\pi - 3$

A)  $6\pi + 8$                       B)  $11\pi^2 - 3$                       C)  $11\pi - 3$                       D)  $8\pi$

15. Divide:  $\frac{13}{\sqrt{2}}$

- A)  $\frac{13\sqrt{2}}{2}$       B)  $\frac{\sqrt{13}}{2}$       C)  $\frac{13\sqrt{2}}{4}$       D)  $13\sqrt{2}$

16. Find:  $0.0000464 \div 2,320,000$

- A)  $2.00 \times 10^1$       B)  $2.00 \times 10^{-11}$       C)  $2.00 \times 10^{11}$       D)  $2.00 \times 10^{-1}$

17. Find:  $4t - 3t \times 3 + 20t^2 \div 5 \times 4$

- A)  $16t^2 - 5t$       B)  $t^2 + 3t$       C)  $t^2 - 5t$       D)  $16t^2 + 3t$

18. Choose the statement that is not true for all real numbers.

- A)  $6xy(3x + y) = 6xy(3y + x)$       B)  $(3a)b = 3(ab)$   
 C)  $6(a) + 6(b) = 6(a + b)$       D)  $(a + b)(a - b) = (a - b)(a + b)$

19. Choose the inequality equivalent to  $-9 \leq -9x - 18 < 9$ .

- A)  $x > 3$       B)  $-1 < x \leq 3$       C)  $-3 < x \leq -1$       D)  $x \leq -1$

20. Solve for  $b$ :  $8b - 11 \leq 9b + 13$

- A)  $b = -24$       B)  $b \leq -24$       C)  $b \geq 24$       D)  $b \geq -24$

21. For each of the statements below, determine whether -2 is a solution.

- i.  $|x - 2| = 0$       ii.  $(t + 5)(t - 1) \leq 9$       iii.  $y^2 + 6y + 24 = 16$

- A) ii only      B) ii and iii only      C) i only      D) iii only

22. The formula for finding the simple interest ( $I$ ) on a loan is  $I = PRT$ . How much interest will Bill pay on his car loan if he finances \$10,000 ( $P$ ) at a 15% simple interest rate ( $R$ ) for 3 years ( $T$ )?

- A) \$500      B) \$4500      C) \$450      D) \$1500

23. Find  $f(3)$  given  $f(x) = x^2 - 2x + 11$ .

- A) 8                      B) 3                      C) 2                      D) 14

24. Which is a linear factor of  $3x^2 - 10x - 8$ ?

- A)  $3x + 2$               B)  $x + 5$               C)  $x - 5$               D)  $3x - 3$

25. Find the real roots of the equation:  $2x^2 - 1 = 6x$

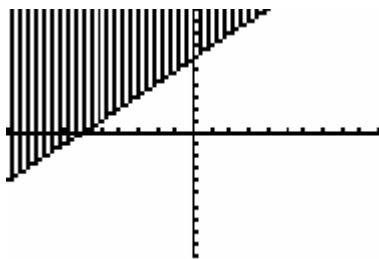
- A)  $\frac{-3 - \sqrt{7}}{2}$  and  $\frac{-3 + \sqrt{7}}{2}$                       B)  $\frac{3 - \sqrt{1}}{2}$  and  $\frac{3 + \sqrt{7}}{2}$   
 C)  $\frac{3 - \sqrt{11}}{2}$  and  $\frac{3 + \sqrt{11}}{2}$                       D)  $\frac{-3 - \sqrt{11}}{2}$  and  $\frac{-3 + \sqrt{5}}{2}$

26. Solve the system:

$$\begin{aligned} 5x - y &= -7 \\ 10x - 2y &= -7 \end{aligned}$$

- A)  $(-1, 2)$                       B) The empty set  
 C)  $\{(x, y) \mid y = 5x + 7\}$                       D)  $(1, 2)$

27. Which option gives the condition(s) that correspond to the shaded region of the plane shown below?



- A)  $y > x + 6$                       B)  $y = x$   
 C)  $x > 6$  and  $y < 6$                       D)  $x > 6$ ,  $y < 6$ , and  $y < x$

28. Two machines can complete 8 tasks every 5 days. Let  $t$  represent the number of tasks these machines can complete in a 31-day month. Select the correct statement of the given condition.

A)  $\frac{8}{5} = \frac{t}{31}$       B)  $\frac{t}{5} = \frac{31}{16}$       C)  $\frac{5}{8} = \frac{t}{31}$       D)  $\frac{t}{8} = \frac{5}{31}$

29. The cost of a long-distance phone call from New York to Athens is defined by  $C(t) = 0.75(t - 1) + 1.35$ , where the cost is \$1.35 for the first minute and \$0.75 for each additional minute. Find the cost of a 23-minute phone call.

A) \$16.50      B) \$17.25      C) \$18.60      D) \$17.85

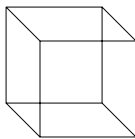
30. The difference between a number and nine more than six times the number is ten. What equation should be used to find  $x$ , the number?

A)  $x - 6x + 9 = 10$       B)  $x - (9x + 6) = 10$   
 C)  $x + (6x - 9) = 10$       D)  $x - (6x + 9) = 10$

31. Find the surface area of a rectangular solid that is 19 inches long, 15 inches wide, and 13 inches high.

A) 1454 sq. in.      B) 1354 sq. in.      C) 1454 in.      D) 3705 sq. in.

32. What type of measure is needed to express the line segment of the solid rectangle shown below?



A) linear      B) square      C) equilateral      D) cubic

33. Find the cost of carpeting an office that measures 12 feet by 18 feet if the carpet costs \$15.50 per square yard.

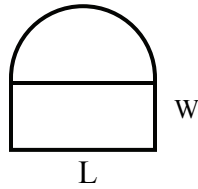
A) \$1116.00      B) \$558.00      C) \$372.00      D) \$3348.00

34. For each relationship below,  $S$  represents the sum of the measures of the interior angles. Study the given information, then find  $S$  for a fourteen-sided polygon.

- 3-sided polygon = 1 triangle:  $S = 180$
- 4-sided polygon = 2 triangles:  $S = 360$
- 6-sided polygon = 4 triangles:  $S = 720$
- 8-sided polygon = 6 triangles:  $S = 1080$

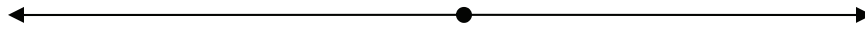
- A) 1980                      B) 2340                      C) 2160                      D) 2520

35. Study the figure, then select the formula for computing the total area of the figure.



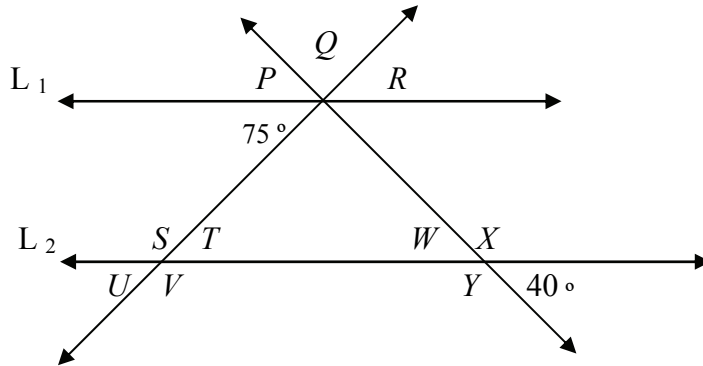
- A)  $A = \frac{1}{4}\pi L^2 + LW$                       B)  $A = LW + \pi L^2$   
 C)  $A = LW + \pi W^2$                       D)  $A = \frac{1}{8}\pi L^2 + LW$

36. Identify the angle below.



- A) obtuse                      B) straight                      C) acute                      D) right

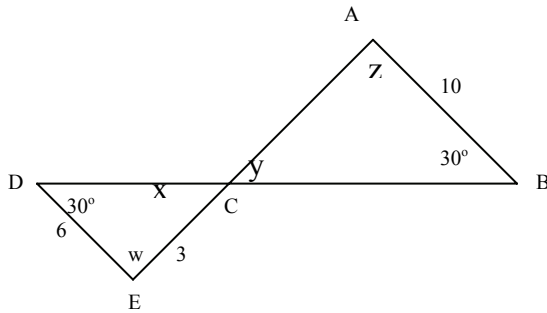
37. Which statement is true for the figure shown, given that  $L_1$  and  $L_2$  are parallel lines?



- A) None of the statements are true.                      B) Since  $m\angle T = 75^\circ$ ,  $m\angle S = 115^\circ$   
 C)  $m\angle V = m\angle R$                       D) Since  $m\angle T = 75^\circ$ ,  $m\angle Q = 65^\circ$



38. Which statement is true for the pictured triangles?

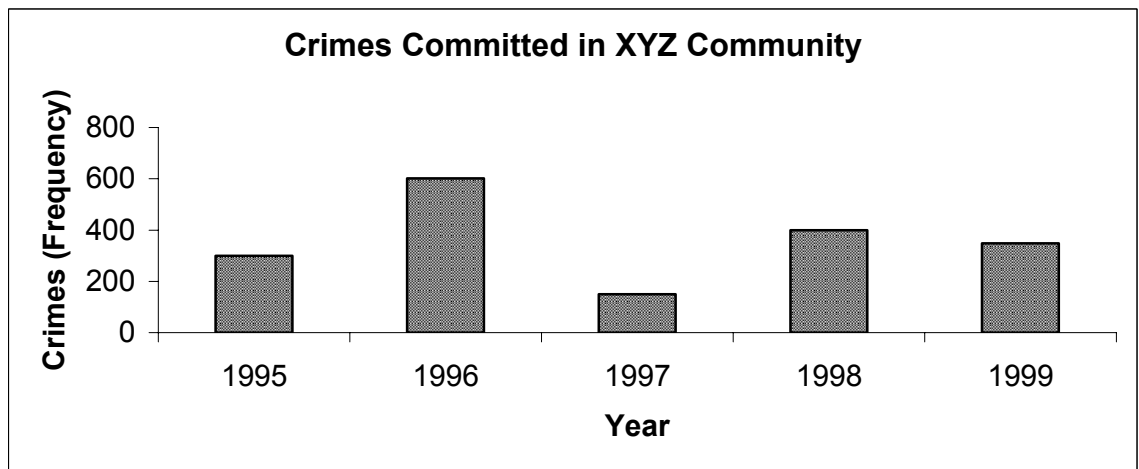


- A)  $AC = 5$       B)  $m\angle z \neq m\angle w$       C)  $m\angle x = 30^\circ$       D)  $\frac{CE}{CA} = \frac{CB}{CD}$

39. A college president decides to conduct a survey of a sample of students to find out which courses are popular with them. What procedure would be most appropriate for obtaining a statistically unbiased sample of the college students?

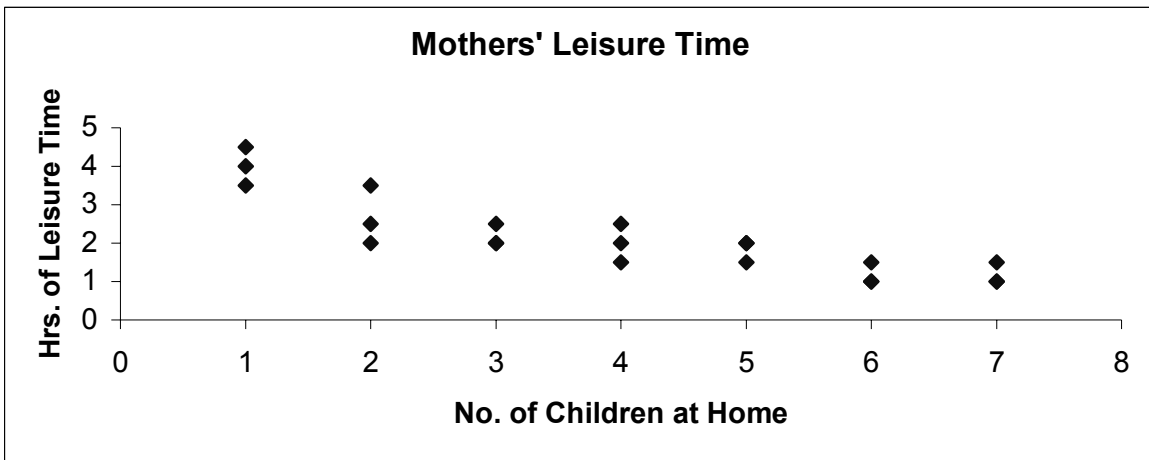
- A) Survey a random sample of students from the English department.  
 B) Survey the first hundred students from an alphabetical listing.  
 C) Survey a random sample of students from a list of the entire student body.  
 D) Have students voluntarily mail in their preferences.

40. The graph below represents the number of crimes committed in a community for the years 1995 – 1999. Find the number of crimes committed for 1996.



- A) 175      B) 300      C) 600      D) 400

41. Consider the graph below. Describe the relationship, if any, between mothers' leisure time per week and the number of children at home.



- A) Strong negative relationship: as the number of children increases, mothers' leisure time increases.
- B) Strong positive relationship: as the number of children increases, mothers' leisure time increases.
- C) Strong positive relationship: as the number of children increases, mothers' leisure time decreases.
- D) Strong negative relationship: as the number of children increases, mothers' leisure time decreases.
42. The number of patients treated at Dr. Jason's dentist office each day was recorded for 9 days. Using the given data, find the mean, the median, and the mode for this sample.
- 9      14      29      29      2      11      17      22      29
- A) 18, 29, 17      B) 29, 17, 18      C) 15.5, 29, 17      D) 18, 17, 29
43. More than half of the shirts in a store cost \$15.00. Most of the other shirts cost \$25.00 and the remaining few cost \$35.00. Find a true statement.
- A) The median is equal to the mean.
- B) The mean is greater than the mode.
- C) The median is less than the mode.
- D) The mean is less than the median.

44. A panel of judges is to consist of 2 women and 3 men. A list of potential judges has 4 women and 5 men on it. How many different panels could be created from this list?

- A) 15                      B) 12                      C) 60                      D) 6

45. The table below shows the distribution of families by income in Tampa, Florida.

<b>Income Level</b>	<b>Percent of Families</b>
\$0 – 9,999	3
10,000 – 14,999	10
15,000 – 19,999	22
20,000 – 24,999	36
25,000 – 34,999	12
35,000 – 49,999	8
50,000 – 79,999	5
80,000 – 119,000	3
120,000 and over	1

Identify the amount below which 13 percent of the families in Tampa have lower incomes.

- A) \$20,000              B) \$35,000              C) \$15,000              D) \$25,000

46. The probability of getting an A in Mrs. Ford's class in any semester is 17%. What is the probability of not getting an A?

- A) 83%                      B) 73%                      C) 68%                      D) 66%

47. The following is a distribution of the cause of fires nationally:

Cause	Percent of all Fires
Cooking	31
Smoking	15
Appliances	15
Heating system	7
Electrical system	9
Other	23

If it is known that a fire has NOT been caused by the heating or electrical system, find the probability that it was caused by appliances.

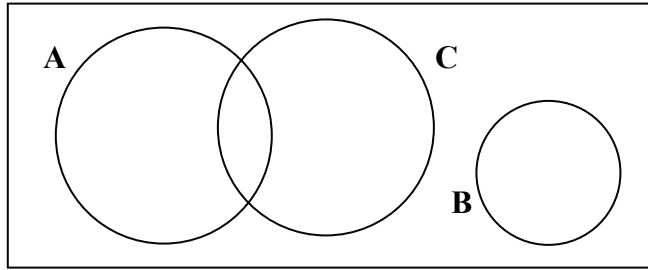
- A)  $\frac{31}{100}$                       B)  $\frac{31}{84}$                       C)  $\frac{3}{20}$                       D)  $\frac{5}{28}$
48. The negation of the statement “If Kari is offered a free trip, she will accept it” is:
- A) If Kari is offered a free trip, she will not accept it.  
 B) Kari is offered a free trip and she accepts it.  
 C) Kari is offered a free trip and she does not accept it.  
 D) If Kari is not offered a free trip, she will not accept it.
49. The statement logically equivalent to “It is not true that both George and Daniel are rich” is:
- A) George is not rich or Daniel is not rich.  
 B) Daniel is not rich and George is not rich.  
 C) If Daniel is not rich, George is not rich.  
 D) If George is not rich, Daniel is not rich.

50. Select the rule of logical equivalence that directly transforms (in one step) statement “i” into statement “ii.”

- i.        If  $x^2$  is even, then  $x$  is even.  
 ii.       If  $x$  is not even, then  $x^2$  is not even.

- A) “If  $p$ , then  $q$ ” is equivalent to “(not  $p$ ) or  $q$ .”  
 B) “If  $p$ , then  $q$ ” is equivalent to “if not  $q$ , then not  $p$ .”  
 C) The correct equivalence rule is not given.  
 D) “Not ( $p$  and  $q$ )” is equivalent to “not  $p$  or not  $q$ .”

51. Sets A, B, C, and U are related as shown in the diagram below.



What statement can be made regarding the relationship among the sets, assuming none of the regions is empty?

- A) All elements which are members of set B are also in set C.
- B) Any element that is a member of set C is also a member of set A.
- C) No element which is a member of set A is also a member of set C.
- D) No element is a member of all three sets A, B, and C.

52. Given that:

- i. No people who run for office are reliable.
- ii. All politicians run for office.

Determine which conclusion can be logically deduced.

- A) All politicians are reliable.
- B) None of these answers.
- C) No politician is reliable.
- D) Some politicians are reliable.

53. Select the conclusion which will make the following argument valid.

If you work hard, then you will find a position. If you find a position, then you will be happy.

- A) If you work hard, then you will be happy.
- B) If you are not happy, then you did not find a position.
- C) If you do not work hard, then you will not be happy.
- D) If you are happy, then you worked hard.

54. All of the following arguments A – D have true conclusions, but one of the arguments is not valid. Select the argument that is not valid.
- A) All birds have feathers and all penguins are birds. Therefore, all penguins have feathers.
  - B) All fleas are six legs and insects have six legs. Therefore, all fleas are insects.
  - C) Every borough of New York City is in New York State. The Bronx is a borough of New York City. Therefore, the Bronx is in New York State.
  - D) All birds have legs and all penguins are birds. Therefore, all penguins have legs.

55. Study the information given below. If a logical conclusion is given, select that conclusion.

All beachcombers are swimmers. All swimmers wear swimsuits. Pat is wearing a swimsuit. Therefore:

- A) Pat cannot swim.
- B) Pat is beachcomber.
- C) Pat can swim.
- D) None of these answers.

## ANSWERS TO CLAST PRACTICE TEST

IF YOU MISSED QUESTION	REVIEW SECTION	REVIEW EXAMPLES	STARTING ON PAGE	CORRECT ANSWERS
1	1.1A, 1.1B	1-8	1	<b>1. C</b>
2	1.2A	1-3	12	<b>2. B</b>
3	1.2B	4-8	13	<b>3. D</b>
4	1.3A	1-6	19	<b>4. D</b>
5	1.3B	7-13	21	<b>5. B</b>
6	1.4A	1-3	31	<b>6. C</b>
7	1.4B	4-9	34	<b>7. D</b>
8	1.4C	10-11	37	<b>8. D</b>
9	1.5A	1-3	44	<b>9. C</b>
10	1.5B	4-9	46	<b>10. D</b>
11	1.5C	10	49	<b>11. B</b>
12	1.6A	1-5	54	<b>12. D</b>
13	1.6B	6-7	57	<b>13. B</b>
14	2.1A	1	66	<b>14. C</b>
15	2.1A	2-6	66	<b>15. A</b>
16	2.1B	7-8	69	<b>16. B</b>
17	2.1C	9-10	70	<b>17. A</b>
18	2.2A	1-3	76	<b>18. A</b>
19	2.2B	4-8	79	<b>19. C</b>
20	2.3A, 2.3B	1-4	86	<b>20. D</b>

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IF YOU MISSED QUESTION	REVIEW SECTION	REVIEW EXAMPLES	STARTING ON PAGE	CORRECT ANSWERS
21	2.3C	5-6	88	<b>21. B</b>
22	2.4A	1-3	93	<b>22. B</b>
23	2.4B	4	95	<b>23. D</b>
24	2.5A	1-2	101	<b>24. A</b>
25	2.5B	3-4	102	<b>25. C</b>
26	2.6A	1-3	109	<b>26. B</b>
27	2.6B	4-6	115	<b>27. A</b>
28	2.7A	1-2	125	<b>28. A</b>
29	2.7B	3-4	127	<b>29. D</b>
30	2.7C	5-6	129	<b>30. D</b>
31	3.1B	2-8	138	<b>31. A</b>
32	3.1C	9	143	<b>32. A</b>
33	3.2A	1-3	149	<b>33. C</b>
34	3.2B	4-6	152	<b>34. C</b>
35	3.2B	7	154	<b>35. D</b>
36	3.3A	1-3	160	<b>36. B</b>
37	3.3B	4-7	166	<b>37. D</b>
38	3.3C	8-10	170	<b>38. A</b>
39	4.1A	1	182	<b>39. C</b>
40	4.1B	2-4	184	<b>40. C</b>



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IF YOU MISSED QUESTION	REVIEW SECTION	REVIEW EXAMPLES	STARTING ON PAGE	CORRECT ANSWERS
41	4.1C	5-11	188	<b>41. D</b>
42	4.2A	1	198	<b>42. D</b>
43	4.2B	2-5	199	<b>43. B</b>
44	4.3A	1-4	212	<b>44. C</b>
45	4.2C	6-10	218	<b>45. C</b>
46	4.3B	5-7	218	<b>46. A</b>
47	4.3C	8-11	220	<b>47. D</b>
48	5.1A	1-4	233	<b>48. C</b>
49	5.1B	5-9	236	<b>49. A</b>
50	5.1C	10	240	<b>50. B</b>
51	5.2A	1	249	<b>51. D</b>
52	5.2B	2-4	251	<b>52. C</b>
53	5.2C	5-6	254	<b>53. A</b>
54	5.3B	3	264	<b>54. B</b>
55	5.3A	1-2	262	<b>55. D</b>