



**ADDITIONAL
CLAST PRACTICE
TEST and
ANSWERS**

PRACTICE CLAST TEST AND ANSWERS

1. Find: $\left(-\frac{8}{15}\right) \div \left(-\frac{1}{5}\right)$
 A) $-\frac{3}{8}$ B) $-2\frac{2}{3}$ C) $\frac{3}{8}$ D) $2\frac{2}{3}$

2. Find: $(4^3)(7^2)$
 A) $(4 + 4 + 4)(7 + 7)$ B) $(4 \times 4 \times 4)(7 \times 7)$
 C) $(4 \times 7)^6$ D) $(4 \times 3)(7 \times 2)$

3. What is the place value associated with the underlined digit?
 2.4971 (base ten)
 A) $\frac{1}{10^0}$ B) $\frac{1}{10^7}$ C) $\frac{1}{10^3}$ D) $\frac{1}{10^2}$

4. Forty individuals work for a company. The lowest paid person earns \$110 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) \$14,000 B) \$6800 C) \$175 D) \$3400

5. Subtract: $-17.08 - 10.954$
 A) -6.126 B) -28.034 C) -27.962 D) 6.126

6. Find an equivalent form of $\frac{1}{4}$.
 A) 0.25% B) 0.25 C) 0.025 D) 2.5%

7. Insert =, <, or > to make a true statement: $4.\overline{64}$ ___ $4.\overline{64}$
 A) > B) < C) = D) Not given

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

$$(15, 5) \quad (0.3, 0.1) \quad (-15, -5) \quad \left(\frac{1}{6}, \frac{1}{18}\right) \quad (36, 12) \quad \left(\frac{1}{4}, \text{---}\right)$$

- A) 12 B) $\frac{1}{2}$ C) $\frac{1}{12}$ D) 2
9. If 70 is decreased to 28, what is the percent decrease?
- A) 6% B) 40% C) 60% D) 42%
10. Find $20\frac{1}{2}\%$ of 90.
- A) 18.45 B) 0.44 C) 184.5 D) 1.845
11. With Andy's new car, he is using only 67% as much gasoline per month as with his old car. He was using 107 gallons of gasoline per month with his old car. How much gasoline per month does Tony save with his new car?
- A) 71.7 gal B) 35.8 gal C) 7.2 gal D) 35.3 gal
12. A 10-ounce can of lemonade concentrate costs \$0.80, and a 24-ounce can costs \$2.40. How much money can be saved by buying 240 ounces of the more economical size?
- A) \$4.80 B) \$1.60 C) \$19.20 D) \$24.00
13. How many whole numbers leave a remainder of 2 when divided into 34 and a remainder of 3 when divided into 19?
- A) 4 B) 2 C) 3 D) 5
14. Simplify: $3\pi + 14\pi - 1$
- A) $2\pi + 16$ B) 16π C) $17\pi - 1$ D) $17\pi^2 - 1$

15. Divide: $\frac{5}{\sqrt{2}}$

- A) $\frac{\sqrt{5}}{2}$ B) $5\sqrt{2}$ C) $\frac{5\sqrt{2}}{4}$ D) $\frac{5\sqrt{2}}{2}$

16. Find: $0.0486 \div 1,620,000$

- A) 3.00×10^4 B) 3.00×10^8 C) 3.00×10^{-4} D) 3.00×10^{-8}

17. Find: $3t - 5t \times 2 + 24t^2 \div 6 \times 2$

- A) $2t^2 - 4t$ B) $8t^2 - 4t$ C) $2t^2 - 7t$ D) $8t^2 - 7t$

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

- A) $(2a)b = 2(ab)$ B) $(a - b)(a + b) = (a + b)(a - b)$
 C) $6xy(2x + y) = 6xy(2y + x)$ D) $6(a) + 6(b) = 6(a + b)$

19. Choose the inequality equivalent to $-8 \leq -8x - 24 < 8$.

- A) $-4 < x \leq -2$ B) $x \leq -2$ C) $-2 < x \leq 4$ D) $x > 4$

20. Solve for b : $17b - 13 \leq 18b + 8$

- A) $b \geq -21$ B) $b \geq 21$ C) $b \leq -21$ D) $b = -21$

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. $y^2 + 7y + 20 = 10$

- A) i only B) ii only C) ii and iii 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 \$6,000 (P) at a 11% simple interest rate (R) for 2 years (T)?

- A) \$1320 B) \$330 C) \$660 D) \$132

23. Find $f(-3)$ given $f(x) = 3x^2 + 2x + 13$.

- A) 21 B) 34 C) 58 D) -2

24. Which is a linear factor of $x^2 + 2x - 15$?

- A) $x - 2$ B) $x + 4$ C) $x + 2$ D) $x - 3$

25. Find the real roots of the equation: $3x^2 + 1 = 5x$

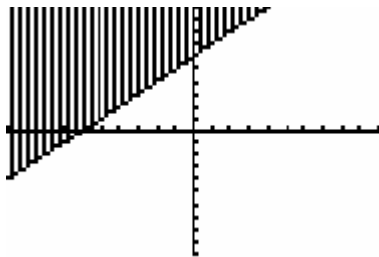
- A) $\frac{-5 - \sqrt{37}}{6}$ and $\frac{-5 + \sqrt{37}}{6}$ B) $\frac{-5 - \sqrt{13}}{6}$ and $\frac{-5 + \sqrt{3}}{6}$
 C) $\frac{5 - 3\sqrt{3}}{6}$ and $\frac{5 + \sqrt{37}}{6}$ D) $\frac{5 - \sqrt{13}}{6}$ and $\frac{5 + \sqrt{13}}{6}$

26. Solve the system:

$$\begin{aligned} 3x - y &= -3 \\ -9x + 3y &= 0 \end{aligned}$$

- A) (2, -3) B) $\{(x, y) \mid y = 3x + 3\}$
 C) (-2, -3) D) The empty set

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



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

28. Two machines can complete 9 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) $\frac{5}{9} = \frac{t}{31}$ B) $\frac{t}{5} = \frac{31}{18}$ C) $\frac{t}{9} = \frac{5}{31}$ D) $\frac{9}{5} = \frac{t}{31}$

29. The cost of a long-distance phone call from New York to Athens is defined by $C(t) = 0.85(t - 1) + 1.40$, where the cost is \$1.40 for the first minute and \$0.85 for each additional minute. Find the cost of a 26-minute phone call.

A) \$22.10 B) \$23.50 C) \$21.25 D) \$22.65

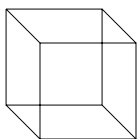
30. The difference between a number and four more than three times the number is ten. What equation should be used to find x , the number?

A) $x - (4x + 3) = 10$ B) $x - (3x + 4) = 10$
C) $x + (3x - 4) = 10$ D) $x - 3x + 4 = 10$

31. Find the surface area of a rectangular solid that is 20 inches long, 17 inches wide, and 14 inches high.

A) 4760 sq. in. B) 1716 in. C) 1616 sq. in. D) 1716 sq. in.

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



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

33. Find the cost of carpeting an office that measures 21 feet by 24 feet if the carpet costs \$12.50 per square yard.

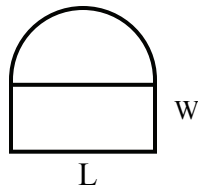
A) \$6300.00 B) \$700.00 C) \$1050.00 D) \$2100.00

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: $S = 1080$

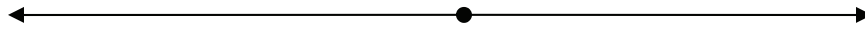
- A) 2520 B) 1980 C) 2340 D) 2160

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



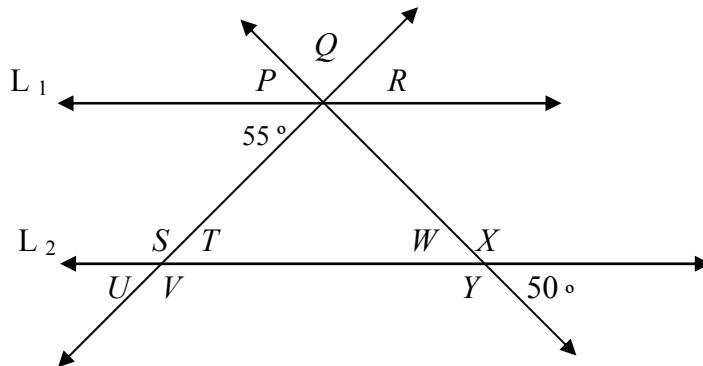
- A) $A = \frac{1}{8}\pi L^2 + LW$ B) $A = LW + \pi W^2$
 C) $A = \frac{1}{4}\pi L^2 + LW$ D) $A = LW + \pi L^2$

36. Identify the angle below.



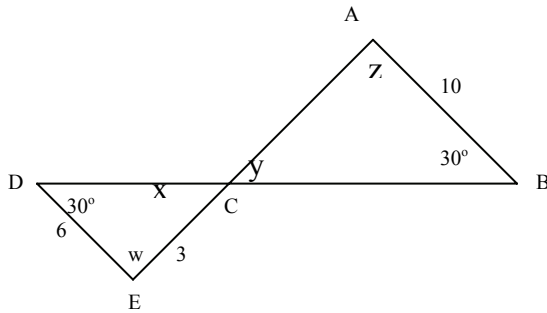
- A) obtuse B) right C) acute D) straight

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



- A) Since $m\angle T = 55^\circ$, $m\angle S = 110^\circ$ B) Since $m\angle T = 55^\circ$, $m\angle Q = 75^\circ$
 C) $m\angle V = m\angle R$ D) None of the statements is true.

38. Which statement is true for the pictured triangles?

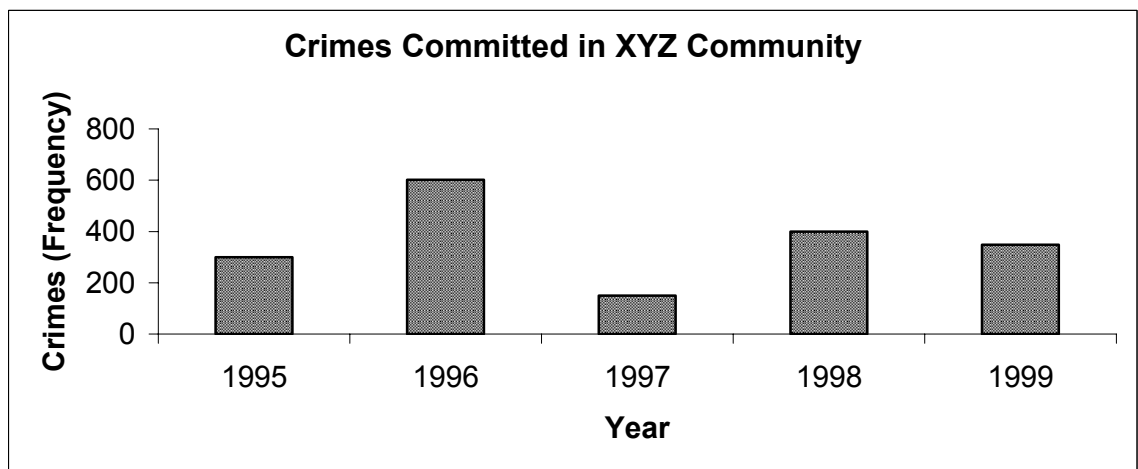


- A) $AC = 5$ B) $m\angle z \neq m\angle w$ C) $m\angle x = 30^\circ$ D) $\frac{CE}{CA} = \frac{CB}{CD}$

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

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 1995.



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

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

- A) 6 B) 30 C) 10 D) 3

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

Income Level	Percent of Families
\$0 – 9,999	3
10,000 – 14,999	4
15,000 – 19,999	19
20,000 – 24,999	47
25,000 – 34,999	11
35,000 – 49,999	7
50,000 – 79,999	5
80,000 – 119,000	3
120,000 and over	1

Identify the amount below which 7 percent of the families in Tampa have lower incomes.

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

46. The probability of getting an A in Mrs. Ford’s class in any semester is 16%. What is the probability of not getting an A?

- A) 84% B) 74% C) 68% D) 64%

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

Cause	Percent of all Fires
Cooking	35
Smoking	15
Appliances	17
Heating system	8
Electrical system	6
Other	19

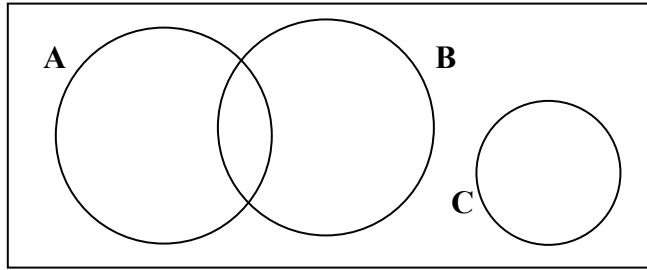
If it is known that a fire has NOT been caused by the heating or electrical system, find the probability that it was caused by appliances.

- A) $\frac{7}{20}$ B) $\frac{17}{86}$ C) $\frac{35}{86}$ D) $\frac{17}{100}$
48. The negation of the statement “If Rita is offered a free trip, she will accept it” is:
- A) If Rita is offered a free trip, she will not accept it.
 B) If Rita is not offered a free trip, she will not accept it.
 C) Rita is offered a free trip and she accepts it.
 D) Rita is offered a free trip and she does not accept it.
49. The statement logically equivalent to “It is not true that both Frank and James are handsome” is:
- A) James is not handsome and Frank is not handsome.
 B) If Frank is not handsome, James is not handsome.
 C) Frank is not handsome or James is not handsome.
 D) If James is not handsome, Frank is not handsome.
50. Select the rule of logical equivalence that directly transforms (in one step) statement “i” into statement “ii.”

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

- A) The correct equivalence rule is not given.
 B) “If p , then q ” is equivalent to “If not q , then not p .”
 C) “Not (p and q)” is equivalent to “not p or not q .”
 D) “If p , then q ” is equivalent to “(not p) or 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) Any element that is a member of set A is also a member of set U.
 - B) If an element is a member of set C, it may also be in set A or set B.
 - C) If an element is a member of set B, it is also a member of set A.
 - D) If an element is a member of set A, it cannot be a member of set B.
52. Given that:
- i. No people who assign work are loveable.
 - ii. All supervisors assign work.

Determine which conclusion can be logically deduced.

- A) All supervisors are loveable.
 - B) Some supervisors are loveable.
 - C) No supervisor is loveable.
 - D) None of these answers.
53. Select the conclusion which will make the following argument valid.

If you study, then you will find a position. If you find a position, then you will be happy.

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

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 boys are noisy and children are noisy. Therefore, all boys are children.
 - B) All cats are beautiful and all Siamese are cats. Therefore, all Siamese are beautiful.
 - C) All cats have a tail and all Siamese are cats. Therefore, all Siamese have a tail.
 - D) Every dog is an animal. The beagle is a dog. Therefore, the beagle is an animal.

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

All sailors are swimmers. All swimmers wear life jackets. Pat is wearing a life jacket. Therefore:

- A) None of these answers.
- B) Pat cannot sail.
- C) Pat is a sailor.
- D) Pat can sail.

ANSWERS TO ADDITIONAL CLAST PRACTICE TEST

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

ANSWERS TO ADDITIONAL CLAST PRACTICE TEST

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

ANSWERS TO ADDITIONAL CLAST PRACTICE TEST

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