Name: _____

Compass Practice Form D

1. $50 \div 200 =$

   A. 25
   B. 2.5
   C. .25
   D. .4
   E. 4

2. If x = -1, what is the value of $-x^3 + x^2 + x + 1$?

   A. 2
   B. 0
   C. 4
   D. –2
   E. –4

3. $\frac{1}{8} + \frac{3}{5} =$

   A. 4 / 13
   B. 27 / 40
   C. 4 / 40
   D. 1 / 10
   E. 29 / 40

4. If the area of a square is 36, what is the perimeter?

   A. 144
   B. 36
   C. 18
   D. 48
   E. 24

5. If x + 2 = 5 – 3(x – 1), then x =

   A. 0
   B. 1 / 2
   C. 2 / 3
   D. 3 / 2
   E. 4

6. What is the value of y if y – 14 = 10 – y?

   A. -12
   B. -2
   C. 2
   D. 12
   E. 24

7. In the solution of the system of equations 2x + y = 1 and 3x + y = 4, the value of y is

   A. -5
   B. –3
   C. 1
   D. 3
   E. 5

8. $6\sqrt{7} + 4\sqrt{7} - \sqrt{5} + 5\sqrt{7} =$

   A. $10\sqrt{7}$
   B. $15\sqrt{7} - \sqrt{5}$
   C. $15\sqrt{21} - \sqrt{5}$
   D. $15\sqrt{16}$
   E. 60

9. If a = -1 and b = 2, what is the value of the expression $2a^3 - 3ab$?

   A. 8
   B. 4
   C. –1
   D. –4
   E. –8

10. Which of the following expressions means the same as 5 times a number decreased by 6 is 49?

    A. 5n + 6 = 49
    B. 5n – 6 = 49
    C. 5n = 49
    D. 5n + 6 = 43
    E. 5(n – 6) = 49

11. Simplify: -(-4 - 7) + (-2)

A. -22
B. -13
C. -9
D. 7
E. 9

12. x (x^4)

A. x^4
B. x^5
C. x^3
D. x
E. x^6

13. The number $\sqrt{50}$ lies between what two consecutive integers?

A. 49 and 51
B. 7 and 8
C. 6 and 7
D. 8 and 9
E. 25 and 26

14. For $x \neq 0$, $\frac{6x^3 + 8x^2y^2 + 2x}{2x} =$

A. $3x^2 + 4xy^2 + 1$
B. $3x^2 + 4xy^3$
C. $6x^3 + 8x^2y^2$
D. $3x^2 + 8x^2y^2 + 2x$
E. $6x^3 + 4xy^2 + 2x$

15. If n is an integer, which expression must be an even integer?

A. 2n + 1
B. 2n – 1
C. n + 1
D. $2n^2$
E. n^2

16. For all x and y, $(3x^4y^3)^2 =$

A. $3x^8y^6$
B. $9x^{16}y^9$
C. $6x^8y^6$
D. $9x^8y^6$
E. $6x^8y^9$

17. What are the solutions to the equation $\frac{x+4}{x} = \frac{x}{2}$?

A. 4 and –1
B. –4 and 1
C. 4 and –2
D. –4 and 2
E. 2 and –2

18. If the length, L, of rectangle is double and the width, W, is increased by 4, then the area is

A. (2L)(W + 4)
B. (4L)(W + 2)
C. (2L)(W – 4)
D. (4L)(W – 2)
E. (2L) + (W – 4)

19. The largest prime factor of 24 is

A. 24
B. 12
C. 8
D. 3
E. 2

20. The y-intercept of the graph of 5x + 2y – 10 = 0 is

A. (0, 5)
B. (0, -5)
C. (0, 10)
D. (0, -10)
E. (0, 2)

21. For all x, $(3x - 1)^2$ =

A. $9x^2 + 1$
B. $9x^2 - 1$
C. $9x^2 + 6x + 1$
D. $9x^2 + 6x - 1$
E. $9x^2 - 6x + 1$

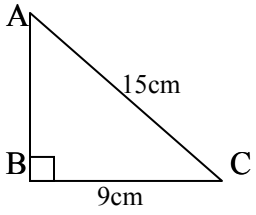
22. .0000691 =

A. 6.91×10^{-5}
B. 6.91×10^{-4}
C. 6.91×10^{5}
D. 6.91×10^{4}
E. 6.91×10^{6}

23. $(-2)^5$ =

A. -32
B. -10
C. 10
D. 16
E. 32

24. Find the area of ΔABC



A. 54 cm^2
B. 81 cm^2
C. 108 cm^2
D. 135 cm^2
E. 180 cm^2

25. For all real numbers x,
$(x^5+3x^3+4) + (x^3-3x+1) - (x^3-2x)$ =

A. $x^5 + 3x^3 - x + 5$
B. $x^5 + 3x^3 - 5x + 5$
C. $4x^3 - 5x + 3$
D. $4x^8 - 5x^2 + 4$
E. None of these

26. If one person ate $\frac{1}{3}$ of a pie and another ate $\frac{1}{4}$ of the pie, what portion of the pie remains?

A. 5 / 7
B. 7 / 12
C. 5 / 12
D. 2 / 7
E. 6 / 7

27. If $f(x) = -x^2 - 3x$, then $f(-2)$ =

A. 10
B. –2
C. 2
D. –2
E. 1

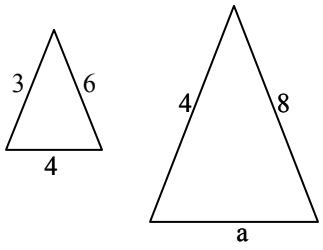
28. $3(x - 4) - (3x - 5) + 2(x + 6)$ =

A. $2x - 15$
B. $2x + 23$
C. $2x + 5$
D. $-2x - 15$
E. $2x - 5$

29. $(-5x^{10})(-2x^{3})$ =

A. $10x^{30}$
B. $-10x^{30}$
C. $-7x^{13}$
D. $10x^{13}$
E. $-10x^{13}$

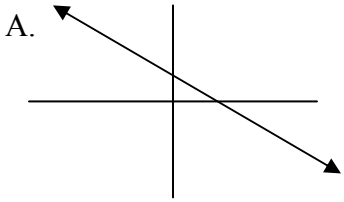
30. The two triangles below are similar. Find a.



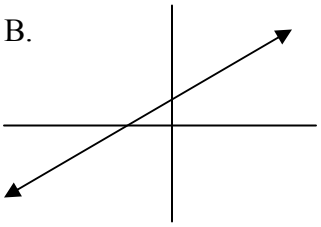
A. 7
B. $5\frac{1}{3}$
C. 5
D. 6
E. $4\frac{2}{3}$

31. Which of the following figures represents the graph of the equation $y = -\frac{1}{2}x + 1$?

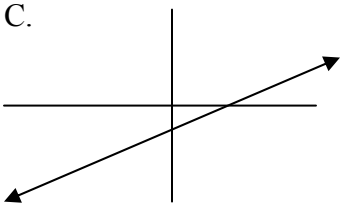
A.



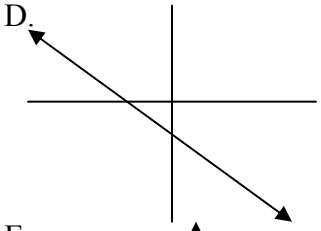
B.



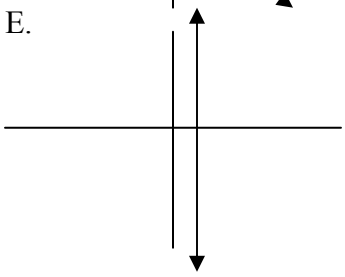
C.



D.

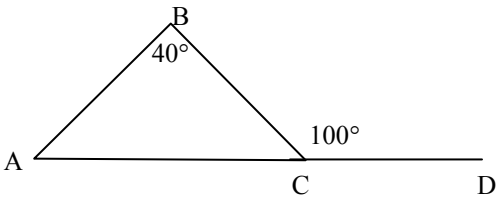


E.



32. In the figure below, the measure of $\angle BCD$ is 100° and the measure of $\angle ABC$ is 40°. The measure of $\angle BAC$ is

A. 100°
B. 80°
C. 40°
D. 60°
E. 120°



33. If $\frac{x}{3} - \frac{x+2}{6} = -2$ then x =

A. 0
B. –4
C. –14
D. 14
E. –10

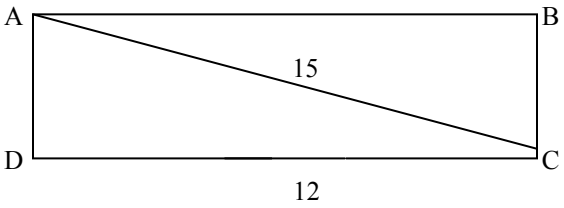
34. If 6 pounds of candy coast $4.20 what is the coast of 8 pounds?

A. $1.80
B. $5.00
C. $5.60
D. $6.50
E. $6.80

35. Given the domain {2, 3, 4, 5, 6} the solution set of $2x - 1 > 5$ is

A. {3}
B. {3,4}
C. {4, 5, 6}
D. {2, 3}
E. {4, 5}

36. What is the perimeter of the rectangle ABCD?



A. 42
B. 24
C. 12
D. 35
E. 432

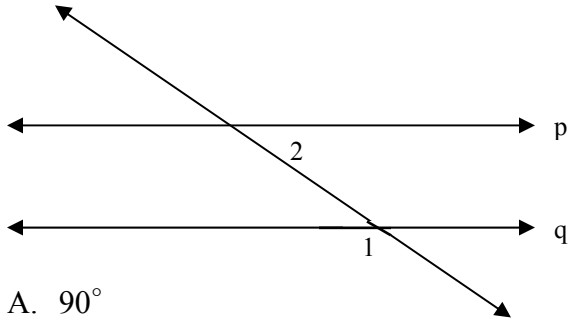
37. Five less than twice a number is -1. What is the number?

A. -3
B. $\frac{1}{3}$
C. $\frac{1}{2}$
D. 2
E. 3

38. The cost of renting a van $27 plus 30 cents per mile. If the cost of renting is C and m is the number of miles the van is driven, then

A. C = 27m + 30
B. C = 30m ÷ 27
C. C = 27 + .30m
D. C = 30 + .27m
E. C = (27 ÷ .30)m

39. In the figure below, p and q are parallel. What is the sum of measures of angle 1 and 2?



A. 90°
B. 100°
C. 180°
D. 270°
E. 360°

40. What is the greatest common divisor of 8, 12, 16?

A. 2
B. 4
C. 6
D. 8
E. 16

Answers to Form D

1. C	12. B	23. A	34. C
2. A	13. B	24. A	35. C
3. E	14. A	25. A	36. A
4. E	15. D	26. C	37. D
5. D	16. D	27. C	38. C
6. D	17. C	28. C	39. C
7. A	18. A	29. D	40. B
8. B	19. D	30. B	
9. B	20. A	31. A	
10. B	21. E	32. D	
11. E	22. A	33. E	

Selected problems were taken from passing the CPE 2nd Ed. © 1990: Pintozzi, Ransom, Hubbard