1. Evaluate. $\left| -69 \right|$

    [A] $\dfrac{1}{69}$ [B] -69   [C] 69   [D] $\dfrac{-1}{69}$

2. Subtract. $-15-(-8)$

    [A] 23   [B] 7   [C] -23   [D] -7

3. Subtract. $-6-(-13)-(-20)-41$

    [A] 54   [B] -40   [C] 68   [D] -14

4. Simplify. $5^4 \cdot 5^3$

    [A] 5^{12} [B] 25^{12} [C] 5^7 [D] 25^7

5. Simplify. $8 \cdot (8+7)+5$

    [A] 160   [B] 125   [C] 76   [D] 600

6. Evaluate $a-b+c$ when a = 4, b = -10, and c = -2

    [A] 16   [B] 12   [C] -8   [D] -4

7. Simplify. $6(x+10)-2(x-7)$

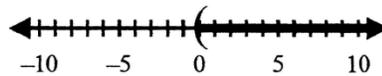   [A] $8x+74$ [B] $8x+46$ [C] $4x+74$ [D] $4x+46$

8. Solve. $3x-1=8$
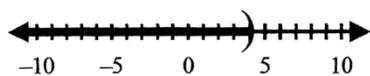
    [A] 10   [B] 1   [C] 3   [D] 6

9. Identify the graph and solution of the inequality. $x+2<2$
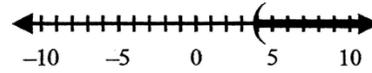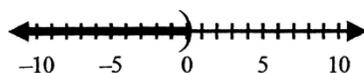
    [A] $x<4$ [B] $x>0$

    [C] $x<0$ [D] $x>4$

10. The sum of three consecutive even integers is 114. What is the largest of the three integers?

[A] 39   [B] 32   [C] 40   [D] 43

11. A stamp collector has 5 cent stamps and 15 cent stamps. The number of 5 cent stamps is four less than twice the number of 15 cent stamps. The total value of the stamps is $1.30. Find the number of both types of stamps in the collection.

[A] 5 cent stamps: 6; 15 cent stamps: 8   [B] 5 cent stamps: 8; 15 cent stamps: 5

[C] 5 cent stamps: 8; 15 cent stamps: 6   [D] 5 cent stamps: 16; 15 cent stamps: 6

12. Find the perimeter of a triangle with sides 12 inches, 13 inches, and 18 inches in length.

[A] 31 in.   [B] 45 in.   [C] 43 in.   [D] 25 in.

13. Find the perimeter of the rectangle.

7 mm

5 mm
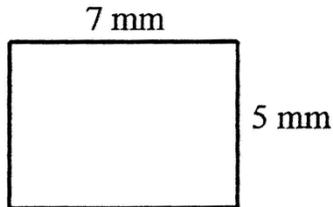
[A] 12 mm   [B] 26 mm   [C] 35 mm   [D] 24 mm

14. ComforTemp purchases heat pumps from a supplier for $480 each. They use a markup rate of 10% to set the price that they will charge homeowners to install heat pumps in their homes. Find the markup that a homeowner must pay in order to have a heat pump installed.

[A] $28.80   [B] $490.00   [C] $480.00   [D] $48.00

15. An investor placed a total of $8000 in two simple interest accounts. One account earned a simple interest rate of 4.9%, and the other earned a simple interest rate of 3.6%. The two accounts earned a total of $327. How much was invested in each account?
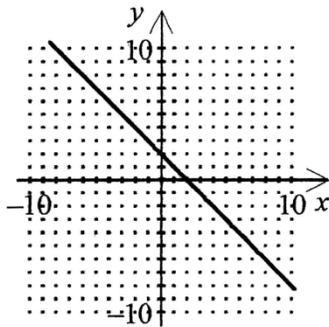
[A] $3000 at 4.9%; $5000 at 3.6%   [B] $3349.76 at 4.9%; $4650.24 at 3.6%

[C] $3426.71 at 4.9%; $4573.29 at 3.6%   [D] $5000 at 4.9%; $3000 at 3.6%

16. Which of the ordered pairs is a solution of $2x + y = -2$?
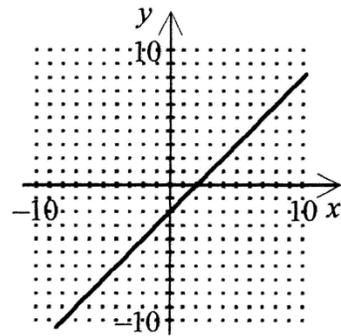
[A] (-3, 4)   [B] (-3, 5)   [C] (4, -3)   [D] (5, -3)
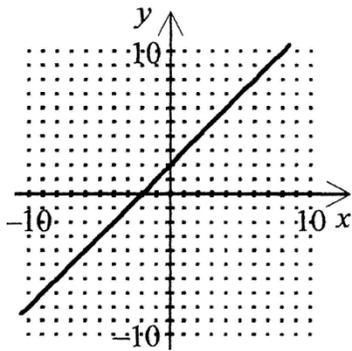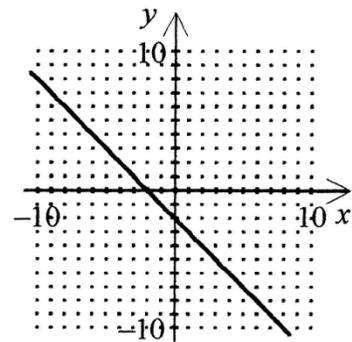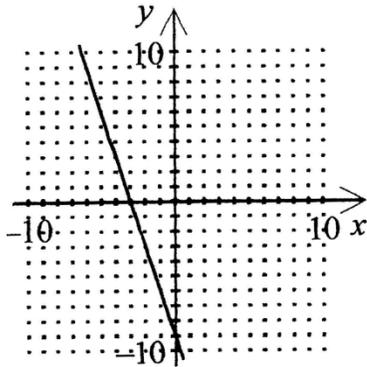
17. Which is the graph of $y = x - 2$?

[A]

[B]

[C]

[D]

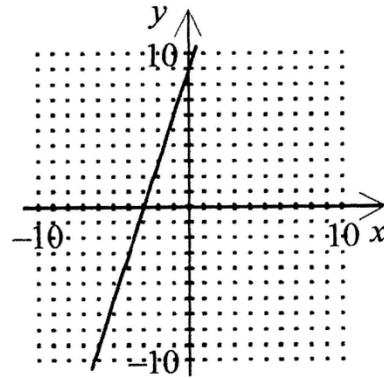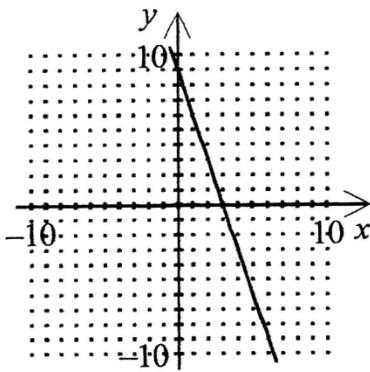18. Which is the graph of $3x + y = 9$?
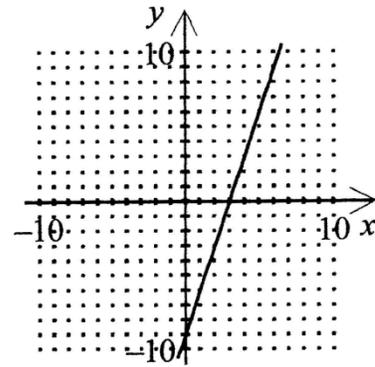
[A]

[B]

[C]

[D]

19. Find the slope of the line that contains (5, -2) and (3, 5).

[A] $\dfrac{-6}{7}$ [B] $\dfrac{-2}{7}$ [C] $\dfrac{-7}{2}$ [D] $\dfrac{3}{8}$

20. Which is the graph of the line with a y-intercept of 6 and slope of $\dfrac{5}{7}$?

[A]
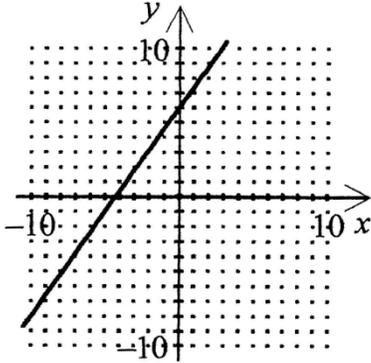
[B]
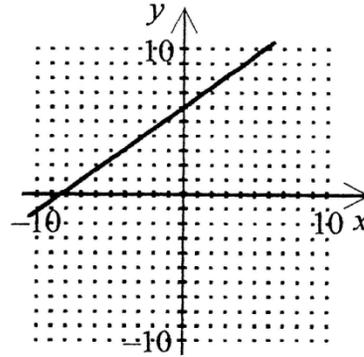
[C]
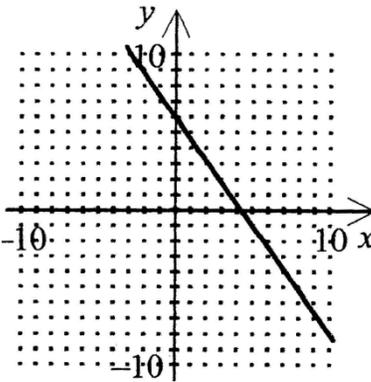
[D]
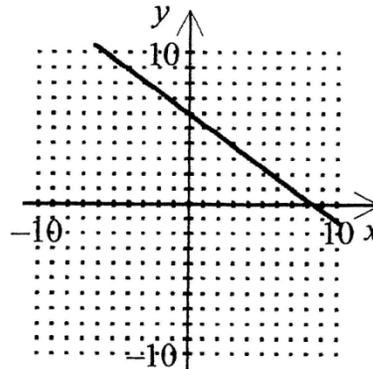
21. Which shows the equation of a line, in slope-intercept form, that passes through the point (4, 1) with slope 4?

[A] $y = 4x - 15$ [B] $y = 4x - 4$ [C] $y = -4x - 4$ [D] $y = -4x - 15$

22. Simplify: $\left(-7x^2 - 5x^3 - 7\right) + \left(-9x^3 - 3 - 5x^2\right)$

[A] $-16x^3 - 8x^2 - 10$

[B] $-16x^3 - 8x^2 - 12$

[C] $-14x^3 - 12x^2 - 10$

[D] $-14x^3 - 12x^2 - 4$

23. Simplify: $\left(-5x^4 + 7x\right) - \left(8x + 7 - x^4\right)$

[A] $6x^4 + 15x + 7$ [B] $-6x^4 + x - 7$ [C] $-4x^4 - x - 7$ [D] $-13x^4 + 6x + 7$

24. Simplify: $2x^2(6x^4 + 3y)$

    [A] $8x^6 + 6x^2y$ [B] $12x^6 + 6x^2y$ [C] $8x^4 + 5xy$ [D] $12x^8 + 3y$

25. Simplify: $(x + 2)(x + 4)$

    [A] $x^2 + 8$ [B] $x^2 + 8x + 8$ [C] $x^2 + 6x + 8$ [D] $x^2 + 8x + 6$

26. Simplify: $(h - 10)^2$

    [A] $h^2 + 20h + 100$ [B] $h^2 - 20h + 100$ [C] $h^2 + 100$ [D] $h^2 - 100$

27. Simplify: $\dfrac{10x^6y^4}{-5x^4y^6}$

    [A] $\dfrac{-x^2}{2y^2}$ [B] $\dfrac{2x^2}{y^2}$ [C] $\dfrac{-2x^2}{y^2}$ [D] $\dfrac{-2x^{10}}{y^{10}}$

28. Express the number in scientific notation. 0.000000226

    [A] 2.26×10^8 [B] 2.26×10^{-5} [C] 226×10^{-7} [D] 2.26×10^{-7}

29. Simplify: $\dfrac{18x^2y^3 + 18x^2y + 6x^2y^2}{6xy}$

    [A] $3xy^2 + 3x + xy$ [B] $3xy^2 + 18x^2y + 1$

    [C] $3xy^2 + 3x + 1$ [D] $3xy^2 + 18x^2y + 6xy$

30. Simplify: $(2x^3 - x^2 + 6) \div (x + 1)$

    [A] $2x^2 - x + 3, r \;\; 4$ [B] $2x^2 - x + 3$

    [C] $2x^2 - 3x + 3$ [D] $2x^2 - 3x + 3, r \;\; 3$

31. Factor: $9x^5 - 15x^8$

    [A] $3x^5(3 - 5x^3)$ [B] $3x^4(x - 5x^7 + 8)$ [C] $3(3x^5 - 5x^8)$ [D] $x^5(9 - 15x^3)$

32. Factor: $x^2 - 11x + 24$

    [A] $(x - 8)(x + 3)$ [B] $(x + 8)(x + 3)$ [C] $(x - 8)(x - 3)$ [D] $(x + 8)(x - 3)$

33. Factor: $6x^2 + 19x + 15$

    [A] $(2x-3)(3x-5)$ [B] $(2x+3)(3x-5)$

    [C] $(2x-3)(3x+5)$ [D] $(2x+3)(3x+5)$

34. Factor: $36x^2 - 25y^2$

35. Solve by factoring. $-2x^2 + 7x - 3 = 0$

    [A] $\dfrac{1}{2}, -3$ [B] $\dfrac{-1}{2}, 3$ [C] $\dfrac{-1}{2}, -3$ [D] $\dfrac{1}{2}, 3$

36. Simplify: $\dfrac{8y^2}{9} \cdot \dfrac{18x}{10y}$

    [A] $\dfrac{2x}{5}$ [B] $\dfrac{18xy}{5}$ [C] $\dfrac{8xy}{5}$ [D] $\dfrac{xy^2}{20}$

37. Simplify: $\dfrac{b^3 c}{d} \div \dfrac{bc^4}{d^3}$

    [A] $\dfrac{b^2 d^2}{c^3}$ [B] $\dfrac{c^3}{b^2 d^2}$ [C] $\dfrac{b^3 d + bc^4}{d^3}$ [D] $\dfrac{b^4 d^5}{d^4}$

38. Simplify: $\dfrac{3}{4(x-3)} + \dfrac{9}{4(x-3)}$

    [A] $\dfrac{12}{x-3}$ [B] $\dfrac{1}{4(x-3)}$ [C] $\dfrac{3}{x-3}$ [D] $3(x-3)$

39. Solve: $\dfrac{7}{16} = \dfrac{13}{x}$

    [A] $\dfrac{91}{16}$ [B] $\dfrac{29}{7}$ [C] $\dfrac{208}{7}$ [D] $\dfrac{112}{13}$

40. Solve the formula for the given variable. $A = 2\pi pw$ for p

    [A] $pw = \dfrac{A}{2\pi}$ [B] $p = \dfrac{A}{2\pi w}$ [C] $p = \dfrac{2\pi w}{A}$ [D] None of these

41. Simplify: $\sqrt{18}$

   [A] $6\sqrt{3}$ [B] $2\sqrt{3}$ [C] $3\sqrt{6}$ [D] $3\sqrt{2}$

42. Simplify: $\sqrt{4x^2}$

   [A] $x\sqrt{4}$ [B] $2\sqrt{x^2}$ [C] $2x$ [D] $2x^2$

1) C

2) D

3) D

4) C

5) B

6) B

7) C

8) C

9) C

10) C

11) C

12) C

13) D

14) D

15) A

16) A

17) B

18) C

19) C

20) B

21) A

22) C

23) C

24) B

25) C

26) B

27) C

28) D

29) A

30) D

31) A

32) C

33) D

34) (6x+5y)(6x-5y)

35) D

36) C

37) A

38) C

39) C

40) B

41) D

42) C