1. Solve. $3x+6=33$

      [A] 9   [B] 18   [C] 12   [D] 39

2. The ordered pair (2, 17) is a solution to which linear equation?

      [A] $y = \dfrac{1}{17}x + \dfrac{1}{4}$ [B] $5 + 6x = 17$ [C] $6 + 6x = y$ [D] None of these

3. Translate into an equation and solve. The sum of seven times a number and seven is seventy-seven. Find the number.
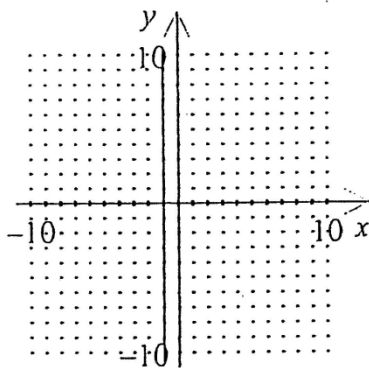
      [A] $x + 49 = 77;\ \ 28$ [B] $77x \cdot 7 = 7;\ \ 9$

      [C] $7x + 7 = 77;\ \ 10$ [D] $7x + 77 = 7;\ \ -10$

4. Which is the graph of $x = -1$?
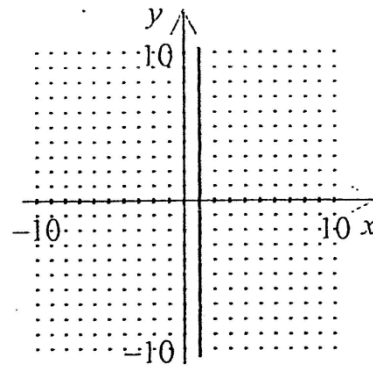
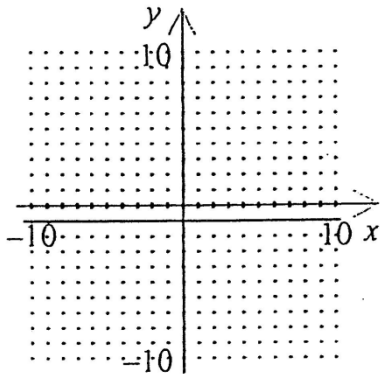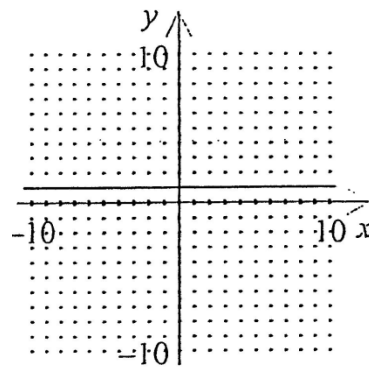   [A]   [B]

      [C]   [D]

5. Factor by grouping: $4x^2 - 12x + 36x - 108$

    [A] $4x(x-3)(x+9)$ [B] $(4x-4)(4x+8)$

    [C] $4(x-3)(x+9)$ [D] $x(4x-4)(4x+8)$

6. Simplify: $(5x^2 - 9x - 2) + (x^2 - 9x - 4)$

    [A] $-4x^2 - 2$ [B] $6x^2 - 18x - 6$ [C] $4x^2 + 2$ [D] $-6x^2 + 18x + 6$

7. A used tire store is selling minimally-worn tires for $36 off the new-tire-price of $60 each. Find the discount rate on these tires.

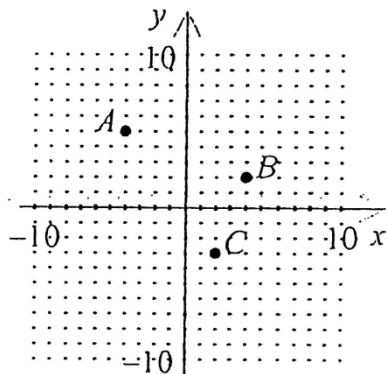   [A] 8%   [B] 60%   [C] 16%   [D] 40%
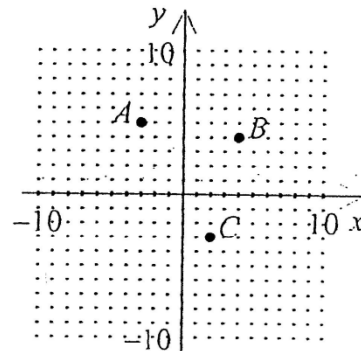
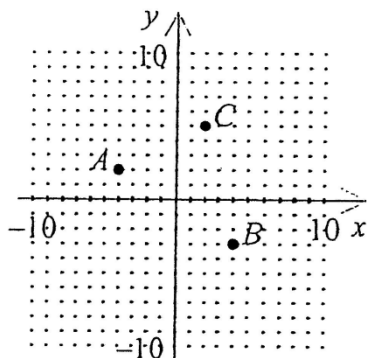8. Which graph shows the points A(-4, 5), B(4, 2), and C(2, -3), on the same axes?

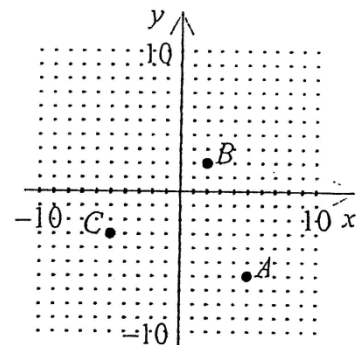   [A]   [B]

    [C]   [D]

9. Simplify: $-3x^2(5x^3+2y)$

   [A] $2x^5-6x^2y$ [B] $2x^3-xy$ [C] $-15x^6+2y$ [D] $-15x^5-6x^2y$

10. Factor: $-4x^4+4x^2$

   [A] $4x^2(x^2-1)$ [B] $-4x^3(x-1)$

   [C] $-4x^2(x+1)(x-1)$ [D] $-4x^2(x+1)^2$

11. Solve. $3x-5=x+4$

   [A] $\dfrac{1}{2}$ [B] $\dfrac{8}{3}$ [C] -2 [D] $4\dfrac{1}{2}$

12. Find the slope of the line that contains (3, -6) and (6, -4)

   [A] $\dfrac{-9}{10}$ [B] $\dfrac{-10}{9}$ [C] $\dfrac{3}{2}$ [D] $\dfrac{2}{3}$

13. Simplify: $\sqrt{72}$

   [A] $24\sqrt{3}$ [B] $6\sqrt{2}$ [C] $3\sqrt{24}$ [D] $8\sqrt{3}$

14. Emily has $167 in her savings account. She withdraws $112, deposits $48, and then withdraws $81. Which shows the ending balance of her account?

   [A] -$145   [B] $22   [C] $312   [D] -$22

15. Subtract. $-16-(-14)$

   [A] -30   [B] 2   [C] -2   [D] 30

16. Simplify: $\dfrac{x^2}{x+2}\cdot\dfrac{x^2-5x-14}{x^2-7x}$

   [A] $\dfrac{x^2-7x}{x-7}$ [B] $\dfrac{-5x-14}{-14x}$ [C] x [D] $\dfrac{x^2+7x}{x-7}$

17. Evaluate: $\left(5\cdot6^2-5\cdot3^2\right)\div(3+2)$

   [A] 171   [B] 279   [C] 135   [D] 27

18. Simplify: $(-5y) + 7 + 6x + y - 8x$

 [A] $-4y + 2x + 8$ [B] $4y - 3x + 8$ [C] $-4y - 2x + 7$ [D] $4y + 2x - 7$

19. Factor completely: $18x^2 - 21x - 60$

 [A] $-3(3x + 4)(2x - 5)$ [B] $-3(3x - 4)(2x - 5)$

 [C] $3(3x - 4)(2x + 5)$ [D] $3(3x + 4)(2x - 5)$

20. Solve. $-5x - 10 < -20$

 [A] $x > 2$ [B] $x < -5$ [C] $x > -5$ [D] $x < 2$

21. An executive assistant bought some 26 cent stamps and some 33 cent stamps. All together she bought 103 stamps for a total value of $30.07. How many stamps of each type did she buy?

 [A] 26 cent stamps: 57; 33 cent stamps: 46   [B] 26 cent stamps: 46; 33 cent stamps: 57

 [C] 26 cent stamps: 56; 33 cent stamps: 47   [D] 26 cent stamps: 47; 33 cent stamps: 56

22. Simplify: $-5\left[9x - 8(6 - x)\right]$

 [A] $-85x - 85$ [B] $-x - 85$ [C] $-85x + 240$ [D] $-x + 240$

23. Simplify: $\dfrac{-36x^5 y^2}{-6x^4 y^4}$

 [A] $\dfrac{6x^9}{y^6}$ [B] $\dfrac{x}{6y^2}$ [C] $\dfrac{6x}{y^2}$ [D] $\dfrac{-6x}{y^2}$

24. Simplify: $\dfrac{24x^5 + 18x^3 - 18x}{6x^4}$

 [A] $4x^5 + \dfrac{3}{x} - \dfrac{3}{x^3}$ [B] $24x^5 + 18x - 3$ [C] $4x + \dfrac{3}{x} - \dfrac{3}{x^3}$ [D] $4x + 18x^3 - 18x$

25. Write an equation for a line, in slope-intercept form, that passes through the point (-5, 2) and has slope 2?

 [A] $y = 2x - 12$ [B] $y = -2x + 12$ [C] $y = -2x - 12$ [D] $y = 2x + 12$

1) A

2) B

3) C

4) A

5) C

6) B

7) B

8) A

9) D

10) C

11) D

12) D

13) B

14) B

15) C

16) C

17) D

18) C

19) D

20) A

21) C

22) C

23) C

24) C

25) D