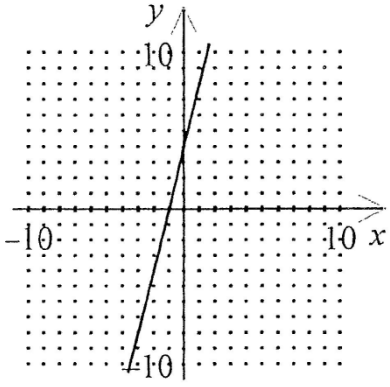
1. Simplify: $\dfrac{-12x^6}{-6x^4}$

[A] $2x^{10}$ [C] $-2x^2$

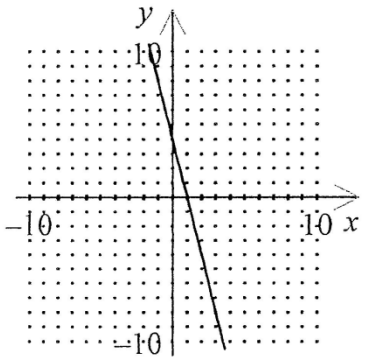
[B] $2x^2$ [D] x^2

2. Which is the graph of the line with a y-intercept of -4 and slope of -4?

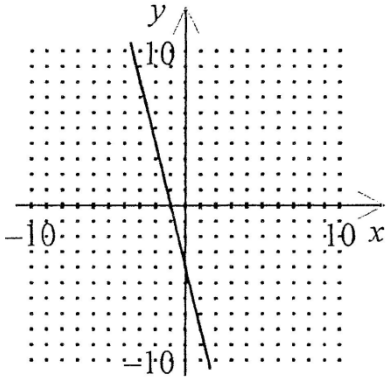
[A]



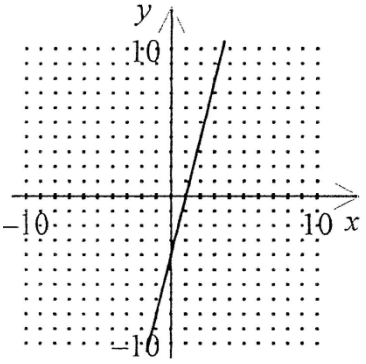
[C]



[B]



[D]



3. Factor: $15x^2 + 4x - 4$

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

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

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

[A] -30 [C] -2

[B] 2 [D] 30

5. Simplify: $(5x-3)(3x+7)$

[A] $15x^2+26x-20$ [C] $15x^2-25x-20$

[B] $15x^2+44x-21$ [D] $15x^2+26x-21$

6. Simplify: $3\cdot(4+7)+2$

[A] 21 [C] 35

[B] 39 [D] 66

7. Factor by grouping: $4x^3-12x^2+9x-27$

[A] $(4x+9)(x^2-3x)(x-3)$ [C] $(4x^2+9)(x-3)$

[B] $(4x^2-9)(x+3)$ [D] $x(4x^2-3x+9)-27$

8. Cycle Stop Bike Sales is offering a markup of $245 on a new bicycle that cost them $955 to stock. Find the markup rate for this bicycle at Cycle Stop.

[A] 26% [C] 39%

[B] 16% [D] 7%

9. Solve: $\frac{35}{9}=\frac{x}{10}$

[A] $\frac{18}{7}$ [C] 5

[B] $\frac{350}{9}$ [D] $\frac{63}{2}$

10. An investment club wants to invest $44,000 in two simple interest accounts. One account earns 3.9% annual simple interest and the other account earns 9.2% annual simple interest. How much should be invested in each account so that both accounts earn the same annual interest?

[A] $12,421.24 at 3.9%; $31,578.76 at 9.2%

[B] $31,578.76 at 3.9%; $12,421.24 at 9.2%

[C] $30,900.76 at 3.9%; $13,099.24 at 9.2%

[D] $13,099.24 at 3.9%; $30,900.76 at 9.2%

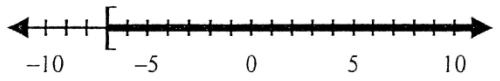
11. Which shows the equation of a line, in slope-intercept form, that passes through the point (-2, -2) with slope 1?

[A] $y = -x - 1$ [C] $y = -x$

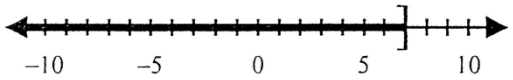
[B] $y = x - 1$ [D] $y = x$

12. Identify the graph and solution of the inequality. $2x \geq 14$

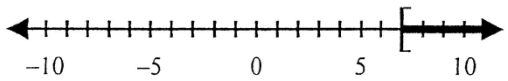
[A] $x \geq -7$



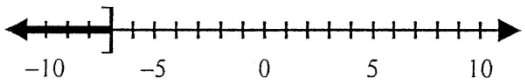
[B] $x \leq 7$



[C] $x \geq 7$



[D] $x \leq -7$



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

[A] 9 [C] 12

[B] 18 [D] 39

14. The sum of three consecutive even integers is 138. What is the largest of the three integers?

[A] 47 [C] 51

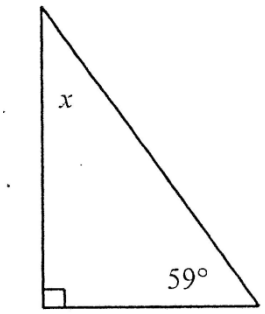
[B] 40 [D] 48

15. Evaluate $a + b - c$ when a = 4, b = 6, and c = -12

[A] 22 [C] 10

[B] -14 [D] -2

16. Which is the measure of x?



[A] 31 [C] 121

[B] 149 [D] 62

17. Find the slope of the line that contains (2, -4) and (7, -3)

[A] $\frac{1}{5}$ [C] -7

[B] 5 [D] $\frac{-7}{9}$

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

[A] $-4x^2 - 2$ [C] $4x^2 + 2$

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

19. Simplify: $\dfrac{8x^2y^4+10x^2y+2xy}{2xy}$

[A] $4xy^3+5x+1$ [C] $4xy^3+10x^2y+2xy$

[B] $4xy^3+10x^2y+1$ [D] $4xy^3+5x+xy$

20. Factor: x^2-49

[A] $(x+7)(x+7)$ [C] $(x-7)(x-7)$

[B] $(x+7)(x-5)$ [D] $(x+7)(x-7)$

21. Solve by factoring. $x^2+2x-15=0$

[A] 3, -5 [C] 3, 5

[B] -3, 5 [D] -3, -5

22. Simplify: $\dfrac{10}{3(x-3)}+\dfrac{2}{3(x-3)}$

[A] $\dfrac{4}{x-3}$ [C] $\dfrac{12}{x-3}$

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

23. Simplify: $\dfrac{9y^2}{4}\cdot\dfrac{20x}{10y}$

[A] $\dfrac{5x}{2}$ [C] $\dfrac{5xy^2}{18}$

[B] $\dfrac{9xy}{2}$ [D] $10xy$

24. Evaluate: $-|-7|$

[A] 7 [C] ± 7

[B] $\dfrac{1}{7}$ [D] -7

25. Simplify: $(2x^3 - 2x^2 - 4) - (4x^3 + 3x^2 - 1)$

[A] $6x^3 + x^2 - 5$ [C] $-2x^3 - 5x^2 - 3$

[B] $-2x^6 - 5x^4 - 3$ [D] $6x^3 + x^2 - 3$

1) B

2) B

3) C

4) C

5) D

6) C

7) C

8) A

9) B

10) C

11) D

12) C

13) A

14) D

15) A

16) A

17) A

18) B

19) A

20) D

21) A

22) A

23) B

24) D

25) C