

Basic Algebra Skills Evaluation (for Geometry and Algebra 2)**NO CALCULATOR may be used for problems 1-10.****Simplify the expression.**

1. $7 - 10 \div 2$
A. 2 B. -13 C. 12 D. -1.5
2. $-9 + 6$
A. -3 B. 3 C. -15 D. 15
3. $-1 - (-3)$
A. 4 B. -2 C. -4 D. 2
4. $(-9)(9)$
A. 18 B. 81 C. -18 D. -81
5. $-12 \div (-2)$
A. 6 B. 24 C. -24 D. -6
6. $(-2)^5$
A. 32 B. -32 C. 16 D. -10
7. $\frac{n^{14}}{n^9}$
A. $\frac{1}{n^5}$ B. n^5 C. n^{126} D. n^{23}
8. $(-1)(9 - c)$
A. $-9 - c$ B. $9 + c$ C. $9 - c$ D. $-9 + c$
9. $2k^8 \cdot 3k^3$
A. $5k^{24}$ B. $6k^{11}$ C. $6k^{24}$ D. $5k^{11}$
10. $(k^2)^4$
A. k^{16} B. $2k^8$ C. k^6 D. k^8
11. Evaluate $u + xy$, for $u = 6$, $x = 2$, and $y = 7$.
A. 56 B. 19 C. 15 D. 20

Evaluate.

12. $3x^2 - 4$ for $x = -5$
A. 71 B. -79 C. 63 D. 221

Use the Distributive Property to multiply.

13. $5(2t - 5)$
A. $10t - 5$ B. $7t - 25$ C. $10t - 25$ D. $-15t$

Solve the equation.

14. $-7b = 21$
A. 14 B. -3 C. 28 D. -147
15. $2x - 26 = 10$
A. -8 B. 5 C. 2 D. 18

Solve each equation, showing your work, and circle your answer.

16. $18 = -d + 12$
A. -9 B. -6 C. 4 D. 6
17. $4(y - 2) = 16$
A. 2 B. 5 C. 6 D. -2

18. $5x - 5 = 3x - 9$
A. -2 B. 1 C. -1 D. -3

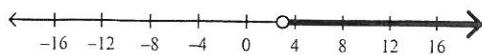
Solve the proportion.

19. $\frac{2}{10} = \frac{11}{x}$
A. 55 B. 2.2 C. 110 D. 1.8

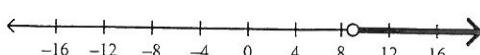
Solve the inequality. Then graph your solution.

20. $c - 3 > 6$

A. $c > 3$



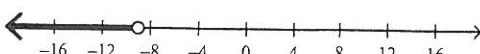
C. $c > 9$



B. $c > -9$

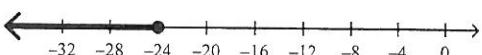


D. $c < -9$



21. $\frac{x}{4} \geq -6$

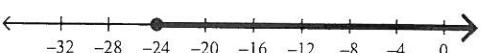
A. $x \leq -24$



C. $x \geq -10$



B. $x \geq -24$

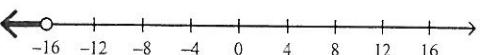


D. $x \geq 10$

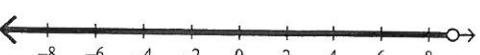


22. $-2w < -18$

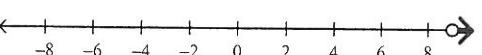
A. $w < -16$



C. $w < 9$



B. $w > 9$

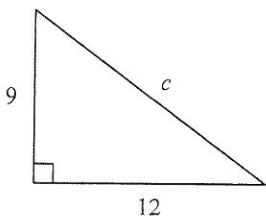


D. $w > -16$



Find the length of the missing side.

23.



A. 15

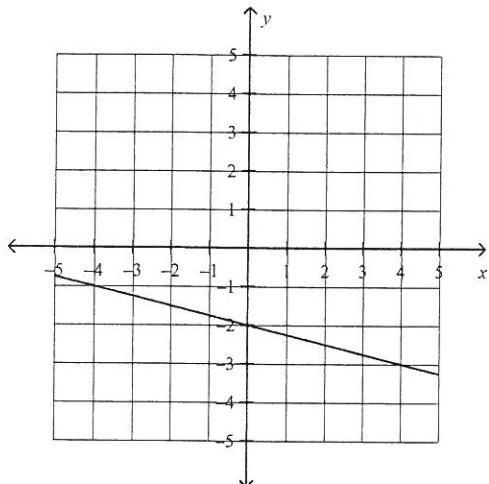
B. 21

C. $\sqrt{15}$

D. $\sqrt{21}$

Find the slope of the line.

24.



A. 4

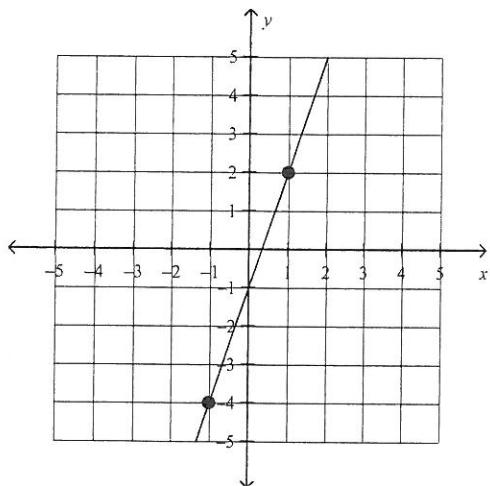
B. $-\frac{1}{4}$

C. $\frac{1}{4}$

D. -4

Write the slope-intercept form of the equation for the line.

25.



A. $y = \frac{1}{3}x - 1$

C. $y = 3x - 1$

B. $y = -3x - 1$

D. $y = \frac{1}{3}x + 1$

Find the slope and y -intercept of the line.

26. $y = \frac{4}{3}x - 3$

A. $\frac{3}{4}; 3$

B. $3; \frac{4}{3}$

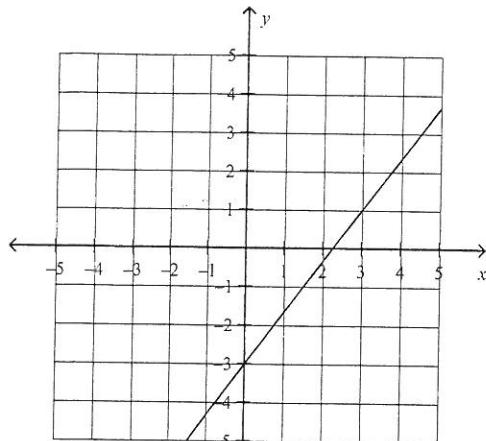
C. $-3; \frac{4}{3}$

D. $\frac{4}{3}; -3$

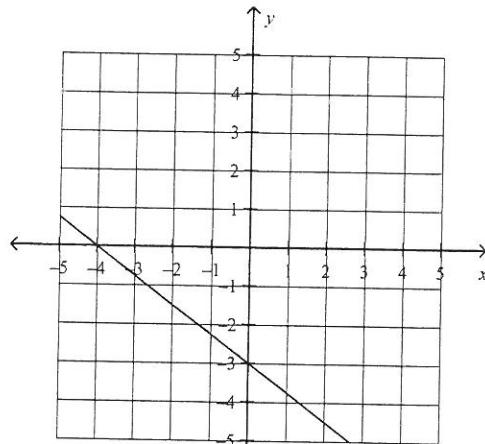
27. Use the slope and y -intercept to graph the equation.

$$y = \frac{3}{4}x - 3$$

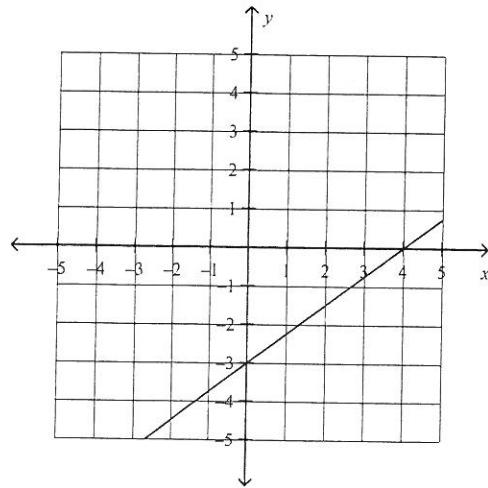
A.



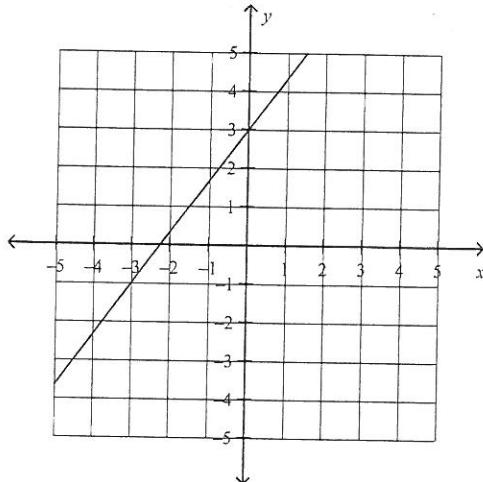
C.



B.



D.



Find the slope of the line that passes through the pair of points.

28. $(1, 7), (10, 1)$

A. $-\frac{3}{2}$ B. $-\frac{2}{3}$

C. $\frac{3}{2}$ D. $\frac{2}{3}$

Simplify the difference.

29. $(4w^2 - 4w - 8) - (2w^2 + 3w - 6)$

A. $2w^2 - 7w - 14$
B. $2w^2 - 1w - 2$

C. $2w^2 - 7w - 2$
D. $2w^2 - 1w - 14$

Simplify the product using FOIL.

30. $(5x - 7)(2x + 6)$
- A. $10x^2 - 44x + 42$
B. $10x^2 + 44x + 42$
C. $10x^2 - 16x - 42$
D. $10x^2 + 16x - 42$

Find the square.

31. $(2m + 1)^2$
- A. $4m^2 + 1$
B. $4m^2 + 4m - 1$
C. $4m^2 + 4m + 1$
D. $4m^2 + 2m + 1$

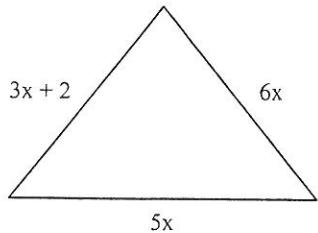
Factor the expression.

32. $d^2 - 5d + 6$
- A. $(d - 3)(d - 2)$
B. $(d + 3)(d + 2)$
C. $(d - 6)(d + 1)$
D. $(d + 3)(d - 2)$
33. $x^2 - x - 42$
- A. $(x - 7)(x + 6)$
B. $(x + 7)(x - 6)$
C. $(x - 7)(x - 6)$
D. $(x + 7)(x + 6)$

Simplify the product.

34. $2n(n^2 + 3n + 4)$
- A. $2n^3 + 6n^2 + 8n$
B. $2n^3 + 6n + 8$
C. $2n^3 + 3n + 4$
D. $3n^3 + 5n^2 + 6n$

35. Write the perimeter of the figure.



not to scale

- A. $16x$
B. $16x^3$
C. $14x^3 + 2$
D. $14x + 2$

Basic Algebra Skills Evaluation (for Geometry and Algebra 2)**Answer Section**

1. ANS: A REF: 1-2 The Order of Operations
2. ANS: A REF: 2-1 Adding Rational Numbers
3. ANS: D REF: 2-1 Adding Rational Numbers
4. ANS: D REF: 2-3 Multiplying and Dividing Rational Numbers
5. ANS: A REF: 2-3 Multiplying and Dividing Rational Numbers
6. ANS: B REF: 2-3 Multiplying and Dividing Rational Numbers
7. ANS: B REF: 8-5 Division Properties of Exponents
8. ANS: D REF: 2-4 The Distributive Property
9. ANS: B REF: 8-3 Multiplication Properties of Exponents
10. ANS: D REF: 8-4 More Multiplication Properties of Exponents
11. ANS: D REF: 1-2 Exponents and Order of Operations
12. ANS: A REF: 4-2 Exponents
13. ANS: C REF: 2-2 The Distributive Property
14. ANS: B REF: 2-6 Solving Equations by Multiplying or Dividing
15. ANS: D REF: 7-1 Solving Two-Step Equations
16. ANS: B REF: 3-1 Solving Two-Step Equations
17. ANS: C REF: 3-2 Solving Multi-Step Equations
18. ANS: A REF: 3-3 Equations With Variables on Both Sides
19. ANS: A REF: 3-4 Ratio and Proportion
20. ANS: C REF: 4-2 Solving Inequalities Using Addition and Subtraction
21. ANS: B REF: 4-3 Solving Inequalities Using Multiplication and Division
22. ANS: B REF: 4-3 Solving Inequalities Using Multiplication and Division
23. ANS: A REF: 3-9 The Pythagorean Theorem
24. ANS: B REF: 6-1 Rate of Change and Slope
25. ANS: C REF: 6-2 Slope-Intercept Form
26. ANS: D REF: 6-2 Slope-Intercept Form
27. ANS: B REF: 6-2 Slope-Intercept Form
28. ANS: B REF: 6-1 Rate of Change and Slope
29. ANS: C REF: 9-1 Adding and Subtracting Polynomials
30. ANS: D REF: 9-3 Multiplying Binomials
31. ANS: C REF: 9-4 Multiplying Special Cases
32. ANS: A REF: 9-5 Factoring Trinomials of the Type $x^2 + bx + c$
33. ANS: A REF: 9-5 Factoring Trinomials of the Type $x^2 + bx + c$
34. ANS: A REF: 9-2 Multiplying and Factoring
35. ANS: D REF: 9-1 Adding and Subtracting Polynomials

