

Basic Algebra Skills Evaluation 2011 (for Geometry and Algebra 2)**NO CALCULATOR** may be used for problems 1-6.**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.

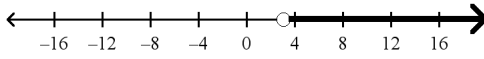
19. $\frac{2}{10} = \frac{11}{x}$

A. 55 B. 2.2 C. 110 D. 1.8

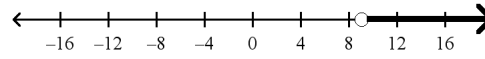
Solve the inequality. Then graph your solution.

20. $c - 3 > 6$

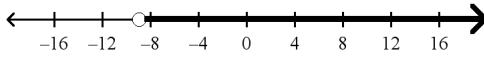
A. $c > 3$



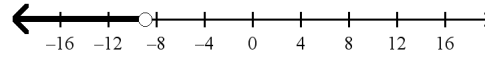
C. $c > 9$



B. $c > -9$

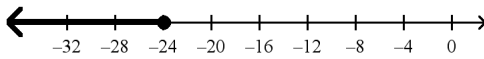


D. $c < -9$

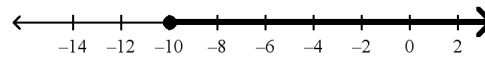


21. $\frac{x}{4} \geq -6$

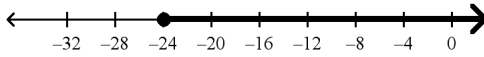
A. $x \leq -24$



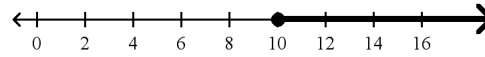
C. $x \geq -10$



B. $x \geq -24$

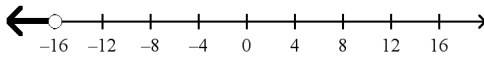


D. $x \geq 10$

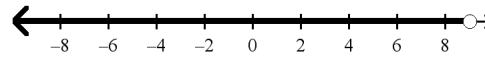


22. $-2w < -18$

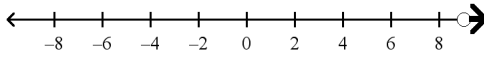
A. $w < -16$



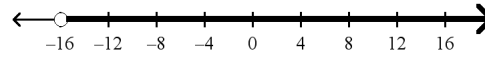
C. $w < 9$



B. $w > 9$

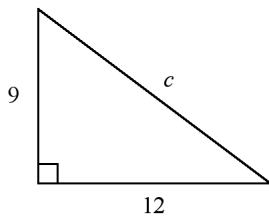


D. $w > -16$



Find the length of the missing side.

23.



A. $\sqrt{5}$

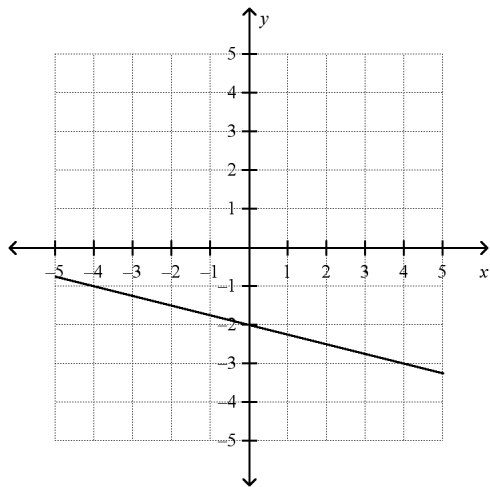
B. 13

C. $\sqrt{13}$

D. 5

Find the slope of the line.

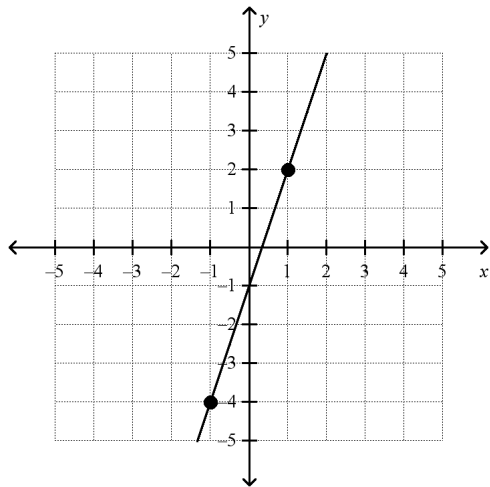
24.



- 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.

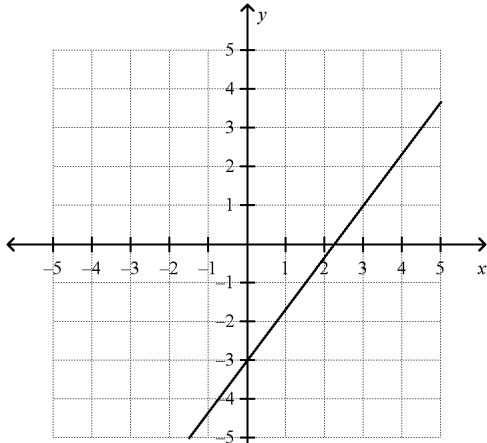
26. $y = \frac{4}{3}x - 3$

- A. $\frac{3}{4}; 3$ B. $3; \frac{4}{3}$ C. $-3; \frac{4}{3}$ D. $\frac{4}{3}; -3$

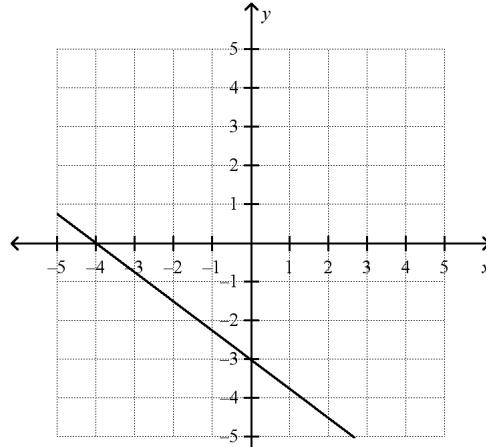
27. Use the slope and y-intercept to graph the equation.

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

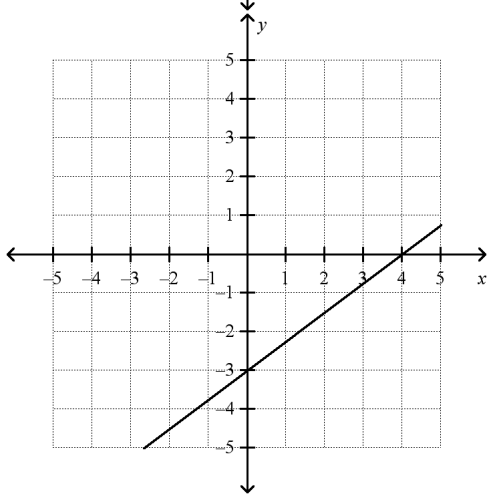
A.



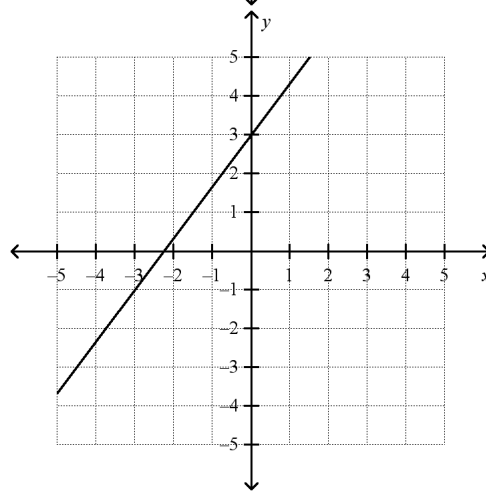
C.



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. $2n(n^2 + 3n + 4)$

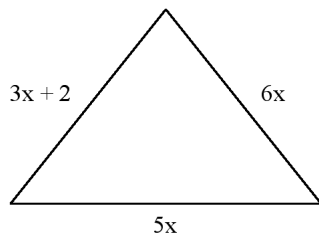
A. $2n^3 + 6n^2 + 8n$

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 2011 (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 |