

# Geometry Readiness Test 1

## Geometry Readiness Practice Test

1. Evaluate  $3 + 6 \cdot 4 - 16 \div 2$ .
2. Evaluate the expression  $16 + 12x - x^3$  when  $x = 3$ .
3. Use the concept of opposites to simplify  $-[-(-4)]$ .
  - a. 4
  - b.  $\frac{1}{4}$
  - c. -4
  - d.  $-\frac{1}{4}$

Tell whether the number is *rational* or *irrational*. Give a reason for your answer.

4.  $\sqrt{\frac{169}{64}}$

**Solve the equation.**

5.  $\frac{9x}{3} + 11x = 28$
6.  $5x + 2 = x + 7$

# Geometry Readiness Test 1

## Answers

### Geometry Readiness Practice Test

1. ANS:  
19

2. ANS:  
25

3. ANS: C

4. ANS:  
Rational; It can be written as  $\frac{13}{8}$ .

5. ANS:  
 $x = 2$

6. ANS:  
 $\frac{5}{4}$

## Geometry Readiness Test 1

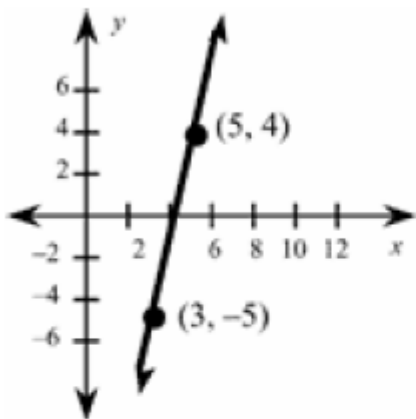
7. Plot the points  $(3, -5)$  and  $(5, 4)$  and find the slope of the line passing through the points .
8. Plot the points  $\left(\frac{9}{2}, 2\right)$  and  $\left(\frac{5}{2}, 1\right)$  and find the slope of the line passing through them.
9. Find the slope of the line that contains  $(-5, 8)$  and  $(-5, -5)$ .
10. Write the equation  $4x - y - 2 = 0$  in slope-intercept form, and sketch the line.
11. Write the equation  $3x - y - 2 = 0$  in slope-intercept form, and sketch the line.
12. Choose an equation, in slope-intercept form, of a line with a slope  $-3$  and a  $y$ -intercept of  $1$ .
  - a.  $y = -3x + 1$
  - b.  $y = -3x - 1$
  - c.  $x = -3y + 1$
  - d.  $y = -\frac{1}{3}x - 1$

# Geometry Readiness Test 1

## Answers

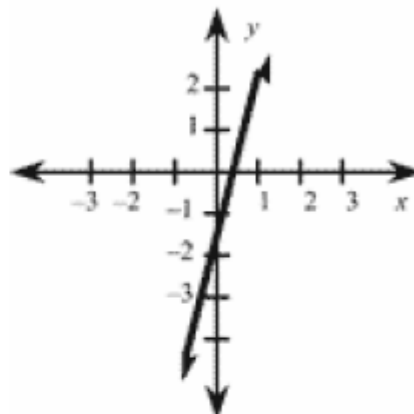
7. ANS:

Slope:  $\frac{9}{2}$



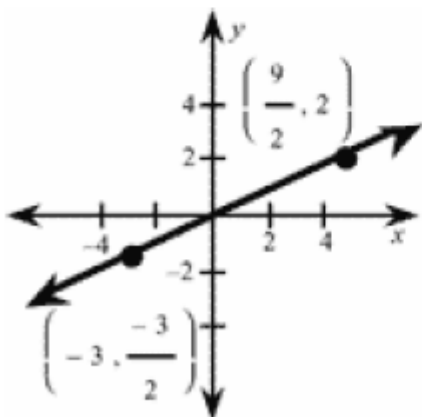
10. ANS:

$$y = 4x - 2$$



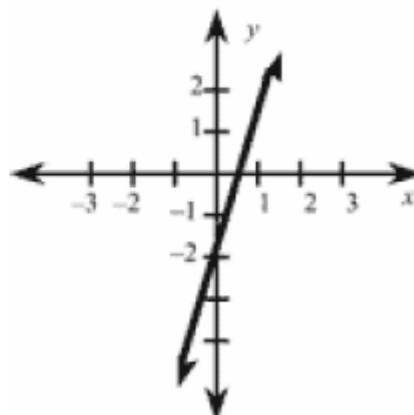
8. ANS:

Slope:  $\frac{7}{15}$



11. ANS:

$$y = 3x - 2$$



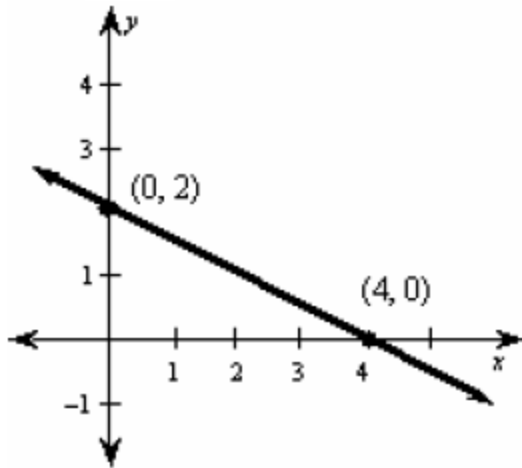
9. ANS:

undefined

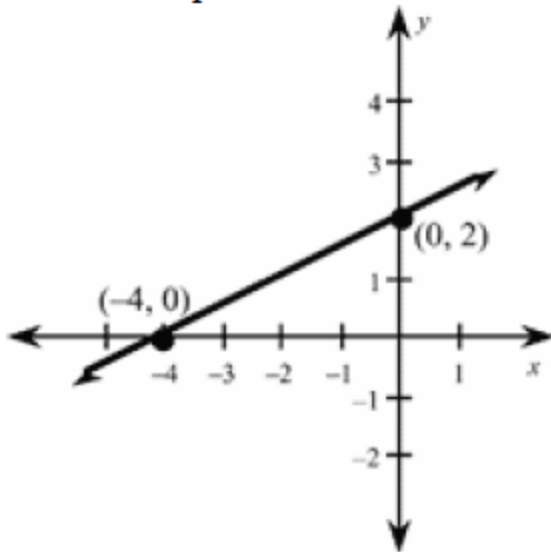
12. ANS: A

# Geometry Readiness Test 1

13. Write an equation of the line shown.



14. Write an equation of the line shown.



## Geometry Readiness Test 1

### Answers

13. ANS:

$$y = -\frac{1}{2}x + 2$$

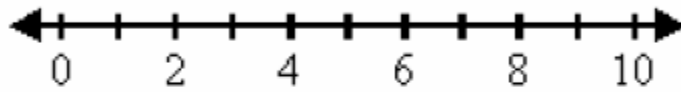
14. ANS:

$$y = \frac{1}{2}x + 2$$

# Geometry Readiness Test 1

**Solve and graph.**

15.  $-12y < -60$



**Solve the inequality. Then graph its solution.**

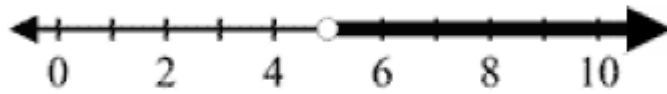
16.  $-\frac{x}{2} < -5$



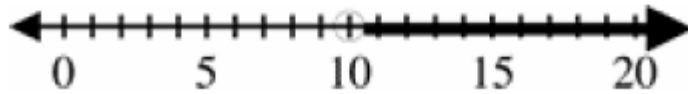
# Geometry Readiness Test 1

## Answers

15. ANS:  
 $y > 5$



16. ANS:  
 $x > 10$





# Geometry Readiness Test 1

Writing: A mistake has been made in the solution. Explain the error and how to correct it.

17.  $y = 3x - 4$   
 $3x - 2y = 13$   
 $3x - 2(3x - 4) = 13$   
 $3x - 6x - 8 = 13$   
 $-3x - 8 = 13$   
 $-3x = 21$   
 $x = -7$   
 $y = 3(-7) - 4$   
 $y = -21 - 4$   
 $y = -25$   
Solution:  $x = -7$  and  $y = -25$

## Geometry Readiness Test 1

### Answers

The error is in the use of the distributive property in the second line of the solution.

Due to the subtraction,  $-2$  must be distributed over the quantity  $(3x + 4)$  and the next line must be  $3x - 6x + 8 = 13$ .

The remaining steps are:

$$-3x + 8 = 13$$

$$-3x = 5$$

$$x = -\frac{5}{3}$$

$$y = 3\left(-\frac{5}{3}\right) - 4$$

$$y = -5 - 4 = -9$$

$$\text{Solution: } x = -\frac{5}{3} \text{ and } y = -9$$

## Geometry Readiness Test 1

18. Solve the system by adding or subtracting.

$$-3x - 3y = 9$$

$$3x + 8y = 6$$

Solve the system:

19.  $3x + 4y = 4$

$$3x + y = 10$$

Solve the system of inequalities graphically:

20.  $y \geq x - 4$

$$y \leq -2x - 8$$

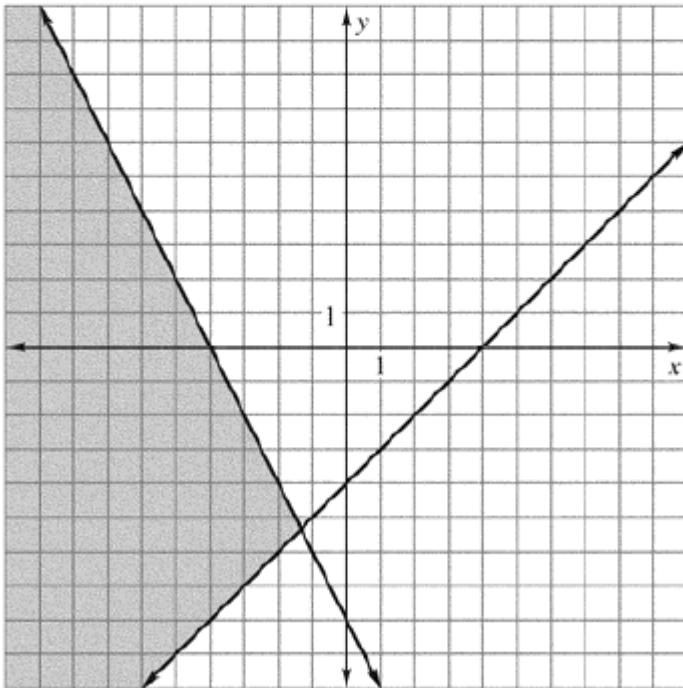
# Geometry Readiness Test 1

## Answers

18. ANS:  
(-6, 3)

19. ANS:  
(4, -2)

20. ANS:



## Geometry Readiness Test 1

Simplify:

21.  $e^3 \cdot e^6 \cdot e$

22.  $(3c^2)(-3c^2d^2)$

Simplify:

23.  $(3t^8r^8)^6$

24. Evaluate the expression  $\frac{5^4 \cdot 5^5}{5^6}$ .

25. Rewrite using only positive exponents:  $2ab^3c^{-3}$

26. Rewrite the expression using positive exponents.  $\frac{1}{9x^{-2}y^{-1}}$

27. Rewrite the expression using positive exponents.  $(-2)^0(3x^{-2}y^{-2})^{-1}$

28. Find the sum  $(-5x^2 + 7x - 2) + (2 - 3x + 4x^2)$ .

**Simplify the expression.**

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

## Geometry Readiness Test 1

### Answers

21. ANS:  
 $e^{10}$

22. ANS:  
 $-9c^4d^2$

23. ANS:  
 $729t^{48}r^{48}$

24. ANS:  
125

25. ANS:  
 $\frac{2ab^3}{c^3}$

26. ANS:  
 $\frac{x^2y}{9}$

27. ANS:  
 $\frac{x^2y^2}{3}$

28. ANS:  
 $-x^2 + 4x$

29. ANS:  
 $7e^4 - 5e^3 - 6$

## Geometry Readiness Test 1

**Find the product.**

30.  $(x - 8)(x + 7)$

31.  $-3x^2(2x^2 - 5x - 3)$

32.  $(x - 3)(x^2 + 4x - 2)$

**Factor the polynomial.**

33.  $x^2 - 16x + 63$

## Geometry Readiness Test 1

### Answers

30. ANS:

$$x^2 - x - 56$$

31. ANS:

$$-6x^4 + 15x^3 + 9x^2$$

32. ANS:

$$x^3 + x^2 - 14x + 6$$

33. ANS:

$$(x-9)(x-7)$$



## Geometry Readiness Test 1

**Solve the equation.**

34.  $x^2 + 4x - 5 = 0$

35.  $x^2 - 3x - 54 = 0$

**Factor the trinomial.**

36.  $25x^2 - 15x + 2$

37.  $2x^2 - 17x + 8$

**Graph the function.**

38.  $y = -9x^2$

# Geometry Readiness Test 1

## Answers

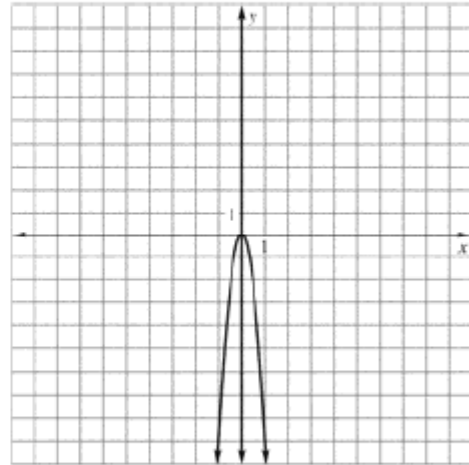
34. ANS:  
-5, 1

35. ANS:  
9, -6

36. ANS:  
 $(5x - 1)(5x - 2)$

37. ANS:  
 $(x - 8)(2x - 1)$

38. ANS:



# Geometry Readiness Test 1

**Describe how the graph of the function compares to the graph of  $y = x^2$ .**

39.  $y = 4x^2$

40.  $\sqrt{20}$

41.  $\sqrt{200}$

a.  $10\sqrt{2}$

b.  $5\sqrt{2}$

c.  $50\sqrt{2}$

d.  $20\sqrt{2}$

# Geometry Readiness Test 1

## Answers

39. ANS:

The graph is narrower than that of  $y = x^2$ , passing through (1, 4) rather than (1, 1).

40. ANS:

$$2\sqrt{5}$$

41. ANS: A

## Geometry Readiness Test 1

Simplify:

42.  $\sqrt{6} \cdot \sqrt{20}$

Find the product.

43.  $\frac{13x^5}{12x^3} \cdot \frac{6x^2}{4x^6}$

Find the sum.

44.  $\frac{2x}{x(x-4)} + \frac{3x(5x-5)}{x(x-4)}$

## Geometry Readiness Test 1

### Answers

42. ANS:  
 $2\sqrt{30}$

43. ANS:  
 $\frac{13}{8x^2}$

44. ANS:  
 $\frac{15x - 13}{x - 4}$

## Geometry Readiness Test 1

Find the difference.

$$45. \frac{x}{x-2} - \frac{3}{2}$$

$$46. \frac{x^2 - 1}{x^2 + 8x + 7} - \frac{1}{x + 7}$$

Solve the equation:

$$47. \frac{x}{3} - \frac{x}{9} = 6$$

$$48. 1 - \frac{3}{x-2} = \frac{-12}{x^2 - 4}$$

**Solve.**

$$49. |x + 6| = 3$$

**Solve the equation algebraically.**

$$50. |x - 2| - 2 = 7$$

## Geometry Readiness Test 1

### Answers

45. ANS:  
$$\frac{-x + 6}{2x - 4}$$

46. ANS:  
$$\frac{x - 2}{x + 7}$$

47. ANS:  
27

48. ANS:  
1

49. ANS: -9, -3

50. ANS:  
11, -7