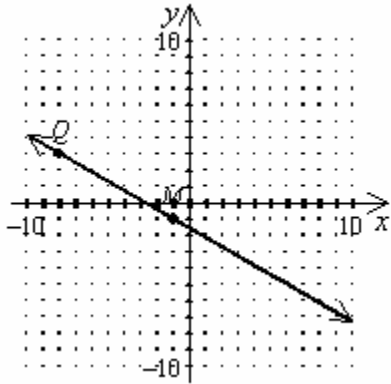
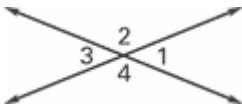
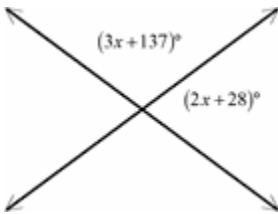


Algebra 2 Readiness Practice Test

- Evaluate $3 + 6 \cdot 4 - 16 \div 2$.
- Find the distance between the points $(-7, 3)$ and $(-15, -3)$.
- The midpoint of \overline{QR} is $M(-1, -1)$. One endpoint is $Q(-8, 3)$. Find the coordinates of the other endpoint.



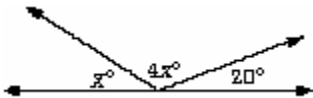
- Solve for x :



- Name a pair of vertical angles in the figure above.

Writing:

- Explain how you would tell another student how to find the value of x in the figure below.



- Simplify the expression $3(2 - x) - 2x$.
- Graph the inequality in a coordinate plane. $y \geq \frac{2}{3}x + 2$

9. Sketch an example of consecutive interior angles.

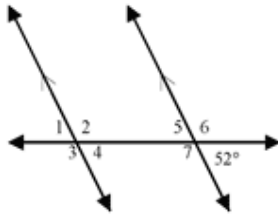
Solve the equation. Check your solution.

10. $\frac{r}{16} + 5 = 11$

True or False:

11. If two parallel lines are intersected by a transversal, then alternate interior angles are congruent.

12. Use the figure to find the measure of $\angle 1$.



Solve the equation.

___ 13. $-x + 15 + 3x + 15 = -4$

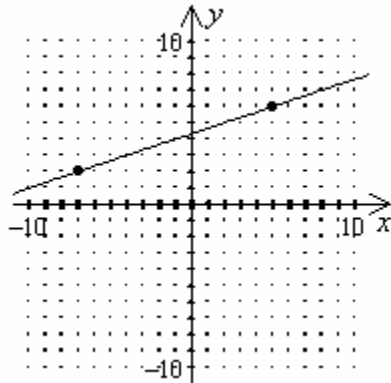
a. -13

b. 17

c. 13

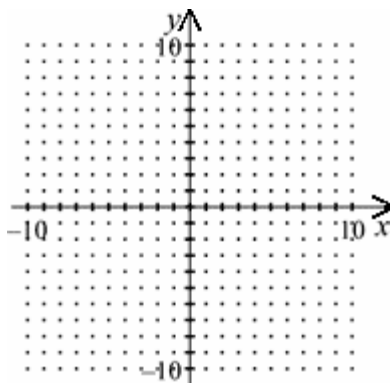
d. -17

14. Find the slope of the line.

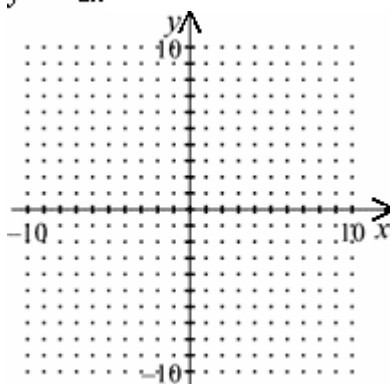


Graph the function.

15. $y = -3x$



16. $y = -2x$



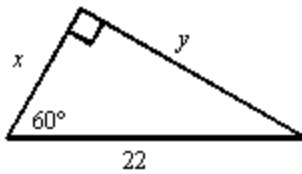
- _____ 17. What is the x -intercept of the line with the equation $2x + 3y = 6$?
- a. -3 b. 2 c. 3 d. -2
18. Sketch the line given by $3x - 4y = -12$. Label the x - and y -intercepts.
19. Plot the points $(3, -5)$ and $(5, 4)$ and find the slope of the line passing through the points .
20. Solve the inequality. Graph your solution. $-3x < -12$

Solve.

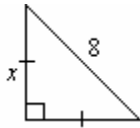
21. $|x + 6| = 3$
22. Use substitution to solve the linear system.
- $$\begin{aligned} x + 4y &= -1 \\ 2x - y &= 7 \end{aligned}$$

Solve the system:

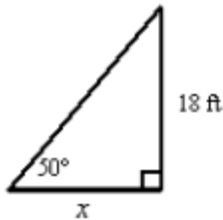
23. $\begin{aligned} 3x + 4y &= 4 \\ 3x + y &= 10 \end{aligned}$
24. Find the value of x and y .



25. Find the value of x .

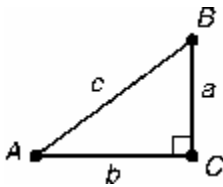


26. A tree 18 feet tall casts a shadow which forms an angle of 50° with the ground. How long is the shadow to the nearest hundredth?

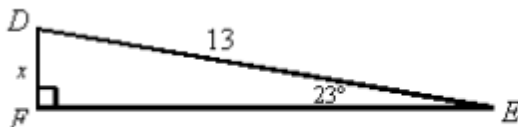


27. Write the trigonometric ratio.

- A. $\sin A$
- B. $\tan B$
- C. $\cos A$



28. Find the value of x , to the nearest whole number. (not drawn to scale)



Solve the system of inequalities graphically:

29. $y \geq -2x - 1$
 $y < -2$

Simplify:

30. $r^4 \cdot r^5 \cdot r^6$
 a. r^{120} b. $3r^{120}$ c. r^{15} d. $3r^{15}$

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

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

Simplify the expression.

33. $(3q^3 + 5) - (3q^2 + 3) + (8q^3 - q^2)$

a. $11q^3 - 4q^2 + 2$

c. $11q^3 + 4q^2 - 2$

b. $11q^3 - 4q^2 + 8$

d. $-5q^3 - 4q^2 + 8$

34. A rectangle has a length of $x + 7$ and a width of $x - 3$. Which equation below describes the area, A , of the rectangle in terms of x ?

a. $A = 2x + 4$

c. $A = x^2 + 10x - 21$

b. $A = 4x + 8$

d. $A = x^2 + 4x - 21$

Find the product.

35. $-z^2(3 - z - 2z^2)$

Solve the equation.

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

Graph the function.

37. $y = -9x^2$

Use the quadratic formula to solve the equation. Round your solution to the nearest hundredth, if necessary.

38. $x^2 - x = 2$

39. $x^2 - x = 6$

Simplify:

40. $\sqrt{150}$

Simplify:

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

42. Simplify the expression $\frac{x^2 + 4x}{x^2 - 16}$.

Find the product.

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

Find the quotient.

44. $\frac{15x^3}{8x^5} \div \frac{10x^4}{4x}$

45. $\frac{x^2 + 2x + 1}{4x^2 + 4x} \div \frac{x^2 - 1}{8x}$

Find the difference.

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

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

48. Solve the equation $30x^2 + 11x - 30 = 0$.

Factor the trinomial.

49. $25x^2 - 15x + 2$

50. $33x^2 - 79x + 40$

Algebra 2 Readiness Practice Test Answer Section

1. ANS:
19

2. ANS:
10 units

3. ANS:
(6, -5)

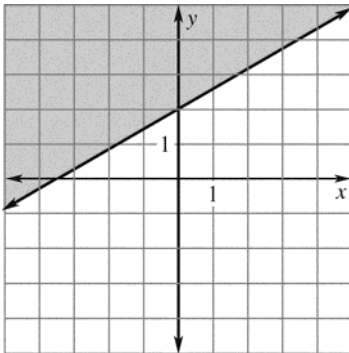
4. ANS:
3

5. ANS:
 $\angle 1$ and $\angle 3$ or $\angle 2$ and $\angle 4$

6. ANS:
Sample answer: The sum of the three measures is 180° since the outer angle is a straight angle. So $x + 4x + 20 = 180$. To solve the equation, begin by combining the like terms, x and $4x$: $5x + 20 = 180$. Now subtract 20 from both sides: $5x = 160$. Finally, divide both sides by 5: $x = 32$.

7. ANS:
 $6 - 5x$

8. ANS:



9. ANS:
Sketches vary.

10. ANS:
96

11. ANS:
True

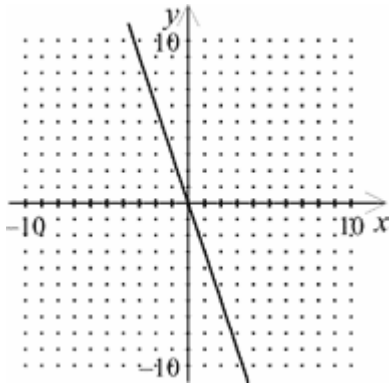
12. ANS:

13. ANS: D

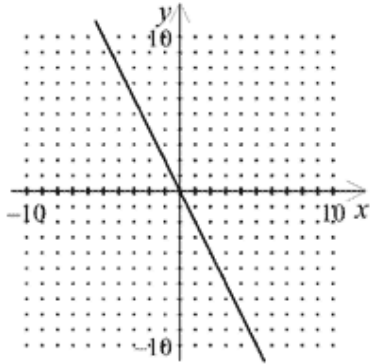
14. ANS:

$$\text{slope} = \frac{1}{3}$$

15. ANS:

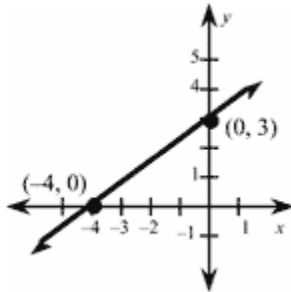


16. ANS:



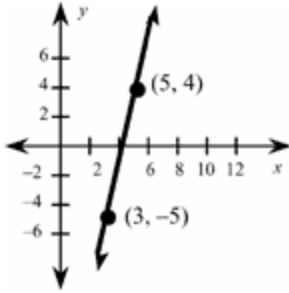
17. ANS: C

18. ANS:

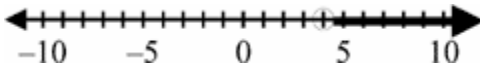


19. ANS:

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



20. ANS:
 $x > 4$



21. ANS:
 $-9, -3$

22. ANS:
 $(3, -1)$

23. ANS:
 $(4, -2)$

24. ANS:
 $x = 11, y = 11\sqrt{3}$

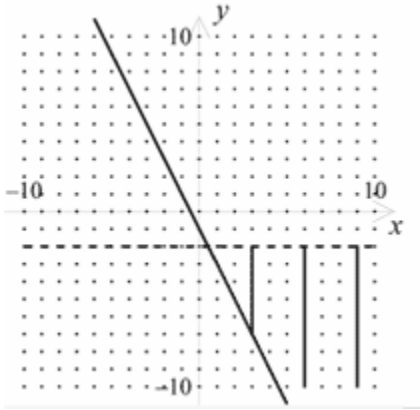
25. ANS:
 $x = 4\sqrt{2}$

26. ANS:
 15.1 ft

27. ANS:
 A. $\frac{a}{c}$ B. $\frac{b}{a}$ C. $\frac{b}{c}$

28. ANS:
 5

29. ANS:



30. ANS: C

31. ANS:
125

32. ANS:

$$\frac{2ab^3}{c^3}$$

33. ANS: A

34. ANS: D

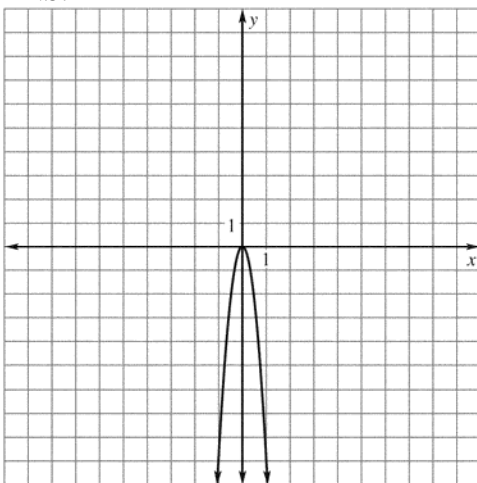
35. ANS:

$$2z^4 + z^3 - 3z^2$$

36. ANS:

-5, 1

37. ANS:



38. ANS:

2, -1

39. ANS:

3, -2

40. ANS:
 $5\sqrt{6}$

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

42. ANS:
 $\frac{x}{x-4}$

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

44. ANS:
 $\frac{3}{4x^5}$

45. ANS:
 $\frac{2}{x-1}$

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

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

48. ANS:
 $-\frac{6}{5}, \frac{5}{6}$

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

50. ANS:
 $(3x-5)(11x-8)$