

Name \_\_\_\_\_

Date \_\_\_\_\_

Period \_\_\_\_\_

Honors Algebra 2  
Algebra I/ Geometry Review Work

Solve the equation for x.

1.  $\frac{\sqrt{x+4}}{2} = \frac{3}{\sqrt{x+4}}$

2.  $\frac{1}{4}x + \frac{1}{2} = \frac{3}{4}x + \frac{1}{3}$

3.  $7x - 2yx = z$

4.  $|2x + 7| \leq 14$  and graph the solution.

5.  $|3x + 2| > 5$

6.  $x^2 + 5x + 4 = 0$

7.  $7xy + 4 = z$

8.  $3(x+5) - (5x-2) = 5(2x-7)$

9.  $8 - 3x \leq 13$

Solve the system.

10.  $\begin{aligned} 4x + 3y &= 11 \\ 2x - 2y &= 2 \end{aligned}$

11.  $\begin{aligned} y &= -5x + 3 \\ 2x - y &= 11 \end{aligned}$

12.  $\begin{aligned} 3x + 2y &= 9 \\ 4x - 6y &= -14 \end{aligned}$

Evaluate for  $f(x) = -2x^2 - 4x$ .

13.  $f(-2)$

14.  $f(x-1)$

Simplify.

15.  $\sqrt{\frac{48}{5}}$

16.  $\frac{16a^{-2}bc^{-3}}{(4ab^3)^{-2}}$

17.  $(2x-3)^2$

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

19.  $\sqrt{54}$

20.  $\frac{4 - 4^2 \div 8 \cdot 3 + 6}{3 - (1+1)^2}$

Factor.

21.  $2x^2 - 11x - 21$

22.  $x^3 + 6x^2 + 5x$

23.  $6x^2 - x - 15$

Solve for the distances.

24. Find the distance between (5,3) and (6,9).

25. Find the leg of a right triangle with hypotenuse of 17 cm and a leg of 8 cm.

Find the equation of the line using the given information.

26. Find equation in point-slope form of line with slope=-4 and through (2,-6).

27. Perpendicular to  $6x - 2y = 8$  through the point (-9,-2)

28. Parallel to  $y = -\frac{2}{3}x + 7$  through the point (-3, 4)

29. Through points (3, 1) and (2,4)

Graph the following.

30.  $6x + 3y = 9$

31.  $3x - y = 2$

Find the x and y intercepts.

32.  $3x - 5y = 15$

33.  $y = x^2 + 7x + 6$

Solve the following problems.

34. A parking attendant charges a different rate for cars than trucks. It costs \$10.75 to park 3 cars and 2 trucks. It costs \$12.25 to park 7 cars and 1 truck. How much does it cost to park a single car? A single truck?

35. Hair grows on your head faster than any other place on your body. Sue was interested in figuring out how fast her hair grows so she measured the growth. After 15 days her hair grew 3 millimeters. After 50 days, it grew 10 millimeters. If hair growth can be represented by a linear relationship, then

- a. Write a function for the growth  $G(x)$  as a function of  $x$ =number of days.
- b. How long did it take Sue's hair to grow 17 millimeters?