

**\*\*Show all work\*\***

**Algebra II**  
Summer Packet 2010

Name: \_\_\_\_\_

Solve:

1.  $x^2 - 2x - 8 = 0$

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

Use the quadratic formula to solve:

3.  $x^2 - 3x + 1 = 0$

Solve:

4.  $\frac{x+3}{4} = \frac{2x-5}{7}$

Simplify:

5.  $3\sqrt{8} - 5\sqrt{12}$

Simplify:

6.  $\sqrt{20} + \sqrt{54} - \sqrt{75}$

7.  $\frac{\sqrt{80}}{\sqrt{12}}$

8.  $\frac{1}{\sqrt{18}}$

9.  $(2x-3)^2$

10.  $(x-1)(2x+3)^2$

Solve by factoring:

11.  $x^2 + 7x = 18$

Solve by substitution:

12. 
$$\left\{ \begin{array}{l} N_N + N_D = 30 \\ 5N_N + 10N_D = 260 \end{array} \right\}$$

Solve by using elimination:

13. 
$$\left\{ \begin{array}{l} 2x + y = 6 \\ x - y = 15 \end{array} \right\}$$

14. Forty percent of what number is 120 ?

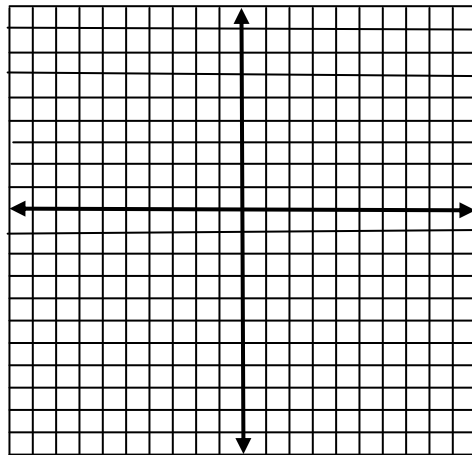
Solve:

15.  $3\frac{1}{2}n - \frac{7}{12} = \frac{3}{4}$

Expand:

16.  $\frac{x^2}{a^{-3}} \left( \frac{2x^{-2}a}{y^{-3}} - \frac{3ay}{x^3} \right)$  Graph:

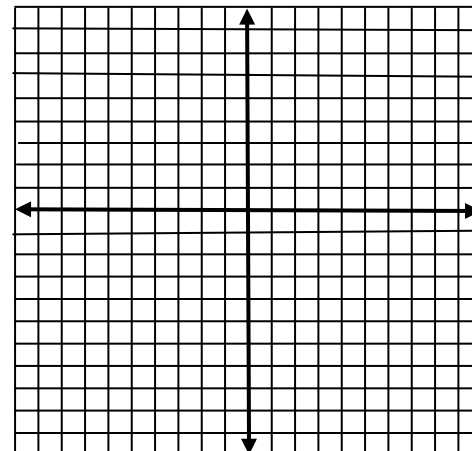
17.  $y = \frac{-2}{5}x + 1$



18. Convert  $15 \frac{ft}{sec}$  to  $\frac{yds}{hr}$

Graph:

19.  $4x + 6y = 24$



Solve by completing the square.

20.  $x^2 - 8x - 3 = 0$

Simplify:

21.  $-5^0 - 7^0 - 3^0 - |-6| - -3 - 4$

Simplify:

22. 
$$\frac{-5 - -3 + 8 - 4}{6 - 3 - 2} \quad \frac{6}{-4}$$

Simplify:

23.  $4\sqrt{80} - 5\sqrt{125}$

24.  $-5\sqrt{3} \quad 4\sqrt{3} - 2\sqrt{20}$

Multiply:

25.  $(2x - 3)(x^2 + 2x - 5)$

Solve:

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

Solve:

27.  $\frac{x - 2}{2} - \frac{x - 3}{3} = 3$

Solve:

28.  $(x + 3)^2 = 12$

Solve:

29.  $\sqrt{x - 2} + 5 = 13$

Simplify:

30.  $\frac{4x}{x^2 - x - 20} - \frac{3}{x + 4}$

Simplify:

31. 
$$\frac{\frac{a}{y} - \frac{5}{yx}}{\frac{t}{y}}$$

Simplify:

32. 
$$\frac{x^2 + x - 6}{x^3 - 4x^2 - 21x} \div \frac{x^2 - 4}{x^2 + 2x}$$

Solve:

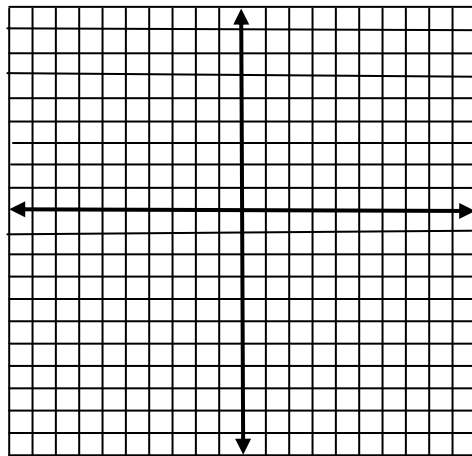
33.  $3x + 3 - 6x - 6 = 19$

Solve:

34.  $3(x + 3) + 6(x - 6) = 10$

Graph:

35.  $y = 4$



Simplify:

36.  $\frac{2}{1 - \sqrt{3}}$

37. Find three consecutive even integers such that 3 times the first is 30 less than twice the sum of the last two.

Solve:

38.  $0.003x + 0.9 = 2.1$

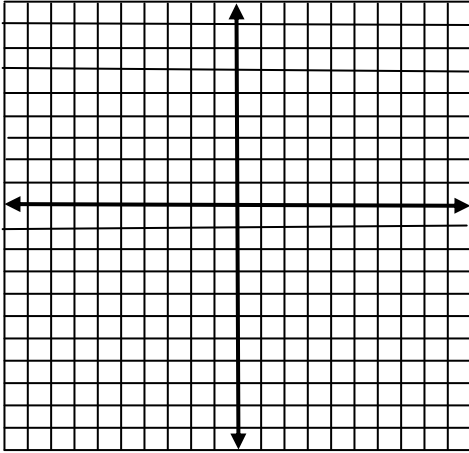
39. What percent of 40 is 15?

Simplify:

40.  $\frac{\sqrt{2} + 2}{\sqrt{3}}$

Graph:

41.  $x = -5$



Solve by using elimination:

48. 
$$\begin{cases} 2x + y = 6 \\ x - 3y = 2 \end{cases}$$

Solve by completing the square.

49.  $2x^2 - 5x - 8 = 0$

Simplify:

50.  $2a^2 + 5x - 8 - 3 \quad 2a^2 - 3x + 2$

Simplify:

42. 
$$\frac{-2 + \sqrt{2}}{3 + \sqrt{3}}$$

Solve:

43.  $-3 \left[ -3^0 - 3 - x + 4x - 3 \right] = -3x^0$

44. The sum of two numbers is 136 and their difference is 50. What are the numbers?

Evaluate:

45.  $ac^2(a^2 - c)$  if  $a = \frac{-1}{5}$  and  $c = \frac{1}{2}$

Solve by factoring:

46.  $2x^2 - 3x - 20 = 0$

Solve by substitution:

47. 
$$\begin{cases} N - 4D = 5 \\ 2N + 3D = 6 \end{cases}$$