

****Show all work****

Advanced Algebra
Summer Packet 2010

Name: _____

Simplify:

1. $2x^2 - 3x - 4x^2 + 8x$

2. $3x(4x^2 - 2x) - 2(4x^2 + 8x)$

Use the quadratic formula to solve:

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

Solve:

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

Simplify:

5. $3\sqrt{8} - 5\sqrt{18}$

Simplify:

6. $3\sqrt{6} + 5\sqrt{6} - 2\sqrt{6}$

7. $\sqrt{80}$

8. $3\sqrt{7} + 3\sqrt{5} - 5\sqrt{7}$

9. $(2x-3)(x+5)$

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

Solve by factoring:

11. $x^2 + 7x - 18 = 0$

Solve by substitution:

12.
$$\begin{cases} X + Y = 30 \\ 5X - Y = 60 \end{cases}$$

Solve by using elimination:

13.
$$\begin{cases} 2x + y = 6 \\ x - y = 15 \end{cases}$$

14. Forty percent of what number is 120 ?

Solve:

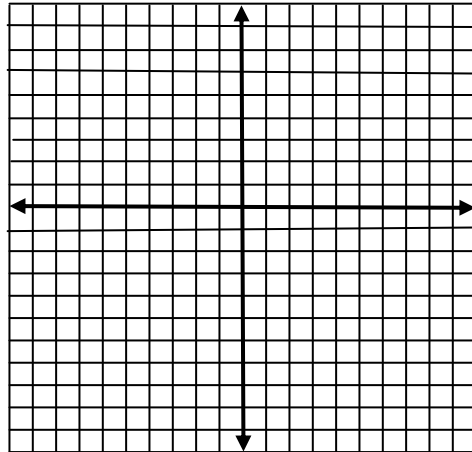
15. $3\frac{1}{2}n - \frac{7}{12} = \frac{3}{4}$

Expand:

16. $x^2a^3(2x^{-2}ay^3 - 3ayx^3)$

Graph:

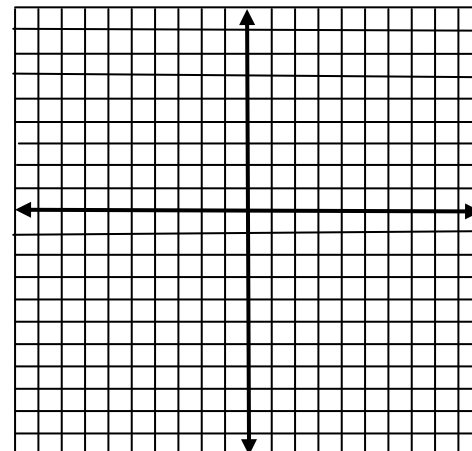
17. $y = \frac{-2}{5}x + 1$



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

Graph:

19. $4x + 6y = 24$



Simplify:

20. $2\frac{3}{4} \div 3\frac{1}{2}$

Simplify:

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

Simplify:

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

Simplify:

23. $4\sqrt{5} - 5\sqrt{6} - 2\sqrt{5} + 3\sqrt{6}$

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

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. $4(x + 3) = 3 - 2x - 5$

Solve:

29. $2x + 5 = x - 8$

Simplify:

30. $\frac{4x}{5} - \frac{3x}{5}$

Simplify:

31. $\frac{a}{7} - \frac{5a}{2}$

Simplify:

32. $\frac{x^2 - 4}{x^2 + 2x}$

Solve:

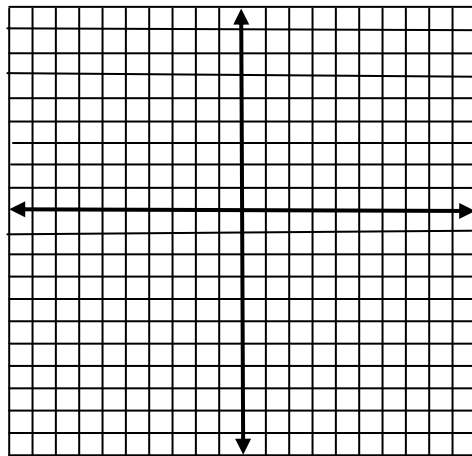
33. $3x + 3 - 6x - 6 = 19$

Solve:

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

Graph:

35. $y = 4x + 1$



Simplify:

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

37. Three times the sum of a number and seven is equal to ten. Find the number.

Solve:

38. $0.003x + 0.9 = 2.1$

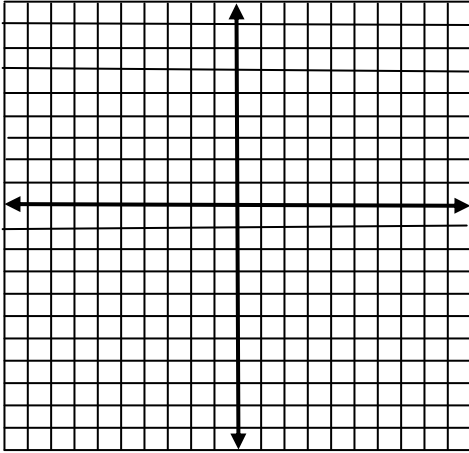
39. What percent of 40 is 15?

Simplify:

40. $3\frac{1}{4} - 1\frac{5}{6}$

Graph:

41. $x = -5$



Factor:

48. $x^2 - 7x + 12$

Simplify:

49. $(2xy^4)(3x^3y^5)$

Simplify:

50. $2a^2 + 5x - 8 - 3(2a^2 - 3x + 2)$

Simplify:

42. $2\frac{1}{3} \div 3\frac{1}{6}$

Solve:

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

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 $c = \frac{1}{2}$

Simplify:

46. $(4xy^2)^3$

Evaluate:

47. $ac - 2ac^2$ $a = 2$ and $c = -3$