

## REVIEW: Fall Final Exam

Date \_\_\_\_\_ Period \_\_\_\_\_

**Write each as an algebraic expression.**

1) 21 less than n is equal to 13

2) the sum of k and 12

3) half of n is 18

4) the product of 10 and 6

5) the quotient of a and 2 is 21

**Evaluate each expression.**

6)  $\frac{(-15) - 3}{-3}$

7)  $4 + 1 - (-5)$

8)  $(-4) - \left(\frac{-18}{-3}\right)$

9)  $-\frac{12}{(5)(2) - 6}$

10)  $\frac{(-6) - (3)(2)}{2}$

11)  $\frac{3}{(-6) - (-5)} - 6$

**Name the set or sets to which each number belongs.**

12)  $\frac{-25}{-5}$

13)  $\sqrt{62}$

14)  $\frac{0}{-5}$

15)  $-11$

**Evaluate each expression.**

16)  $\frac{15}{8} - \frac{2}{3}$

17)  $3\frac{1}{2} + \left(-\frac{6}{7}\right)$

18)  $1\frac{3}{7} - \left(-1\frac{1}{3}\right)$

19)  $\frac{9}{7} - 1\frac{1}{3}$

$$20) \frac{8}{5} - 8 + 2\frac{2}{5}$$

$$21) \left(-\frac{5}{6}\right) - \left(-2\frac{3}{4}\right) - \left(-\frac{7}{4}\right)$$

**Solve each equation.**

$$22) -12 + 3x = -5(x + 8) + x$$

$$23) 22 - 8n = 3 + 2(7 - 4n)$$

$$24) -\frac{15}{4}\left(-\frac{10}{3}m + \frac{5}{3}\right) = -50$$

$$25) 3\left(-\frac{10}{3}x - \frac{3}{4}\right) = \frac{493}{12}$$

$$26) |x - 7| = 10$$

$$27) |-6m| = 48$$

$$28) \frac{|v + 8|}{9} = 3$$

$$29) \frac{|v + 4|}{7} = 4$$

**Solve each equation for the indicated variable.**

$$30) z = mx + y, \text{ for } x$$

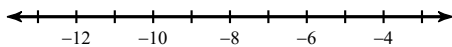
$$31) ac = d + r, \text{ for } a$$

$$32) z = y + \frac{m}{x}, \text{ for } x$$

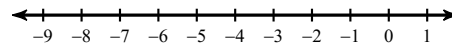
$$33) ac = r - d, \text{ for } a$$

**Solve each inequality and graph its solution.**

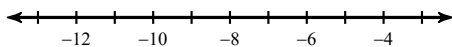
$$34) -6(p + 1) - 2(3 - 8p) > -72$$



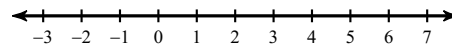
$$35) -2(1 + n) + 2(n - 8) \geq 7$$



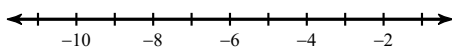
$$36) -6(n + 4) + 3(3 + 3n) > -39$$



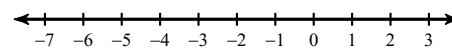
$$37) -4(8a - 2) + 8(8 + 4a) < 7$$



$$38) -\frac{10}{3}\left(\frac{15}{4}p - \frac{8}{3}\right) \leq \frac{1895}{36}$$

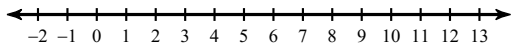


$$39) -\frac{1243}{24} \geq -\frac{11}{3}\left(-\frac{15}{4}p + 1\right)$$



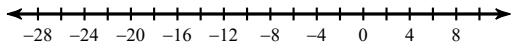
Solve each compound inequality and graph its solution.

40)  $57 \geq 7 + 5x \geq 7$

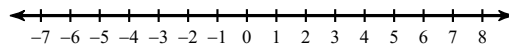


Solve each inequality and graph its solution.

41)  $|n + 8| + 6 \leq 23$



42)  $-4|-5n| < -60$



Solve each proportion.

43)  $\frac{5}{a} = \frac{2}{9}$

44)  $\frac{9}{a} = \frac{2}{5}$

45)  $\frac{8}{x+5} = \frac{2}{4}$

46)  $\frac{2}{3} = \frac{n-2}{4}$

47)  $\frac{4}{x-6} = \frac{7}{x}$

48)  $\frac{4}{k+4} = \frac{7}{k}$

Solve each problem.

49) 8% of 15 is what?

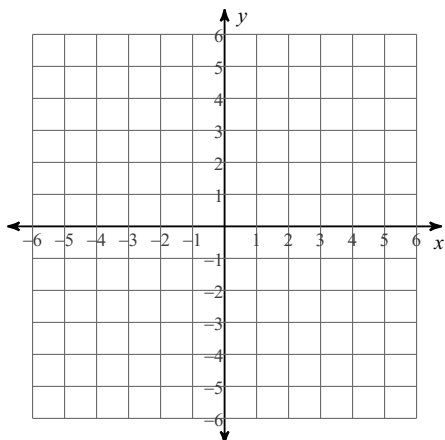
50) 15 is what percent of 38.7?

51) 15 is what percent of 48?

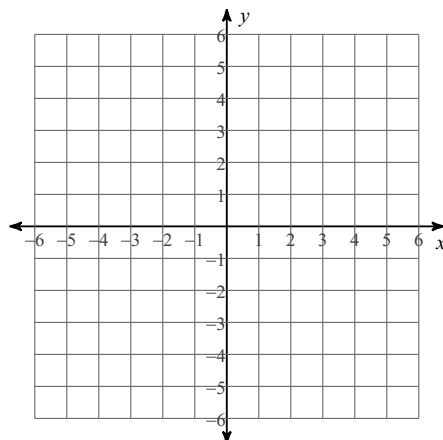
52) 32% of 41.9 is what?

Sketch the graph of each line.

53)  $5y - 2x - 10 = 0$

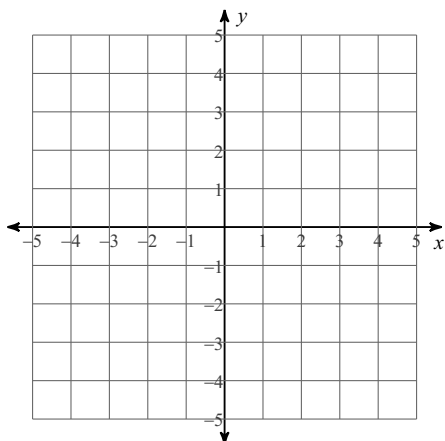


54)  $-y = -4$

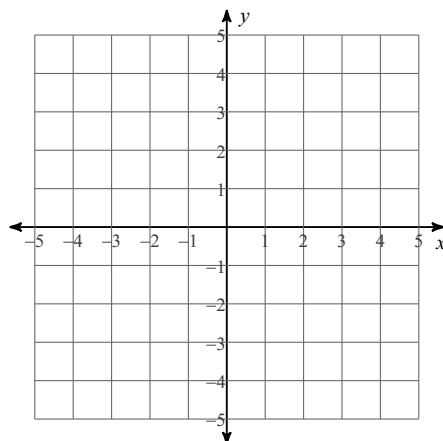


Solve each system by graphing.

55)  $5x - y = 1$   
 $x - y = -3$



56)  $3x + 2y = -6$   
 $x - 4y = -16$



Solve each system by elimination.

57)  $-2x + 9y = 21$   
 $-x + 5y = 11$

58)  $-6x - 8y = 18$   
 $4x - 5y = -12$

Solve each system by substitution.

59)  $-x + y = 9$   
 $-2x - 6y = -22$

60)  $-6x - 6y = -6$   
 $8x + 6y = 14$