Follow order of operations to simplify the following expression:

1) $9 - \left(\frac{21}{9-2} - 10\right)$

Evaluate the expression using the values given for the variables.

2) $3 + x + (x+z)^2$; use $x = -8$, and $z = 4$

Simplify the expression.

3) $4(3n+7) - 7(1-8n)$

Simplify the expression and write your answer as a fraction in lowest terms.

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

Use a proportion to set up and solve the following problem. Round your answer to the nearest tenth if necessary.

5) A lawn ornament that is 5.4 ft tall casts a shadow that is 10.8 ft long. Find the length of the shadow that a 9.1 ft ladder casts.

Set up and solve an equation to answer the question below. Round your answer to the nearest tenth of a percent if necessary.

6) 127 is what percent of 147?

Find the percentage change. Round to the nearest tenth of a percent if necessary and state whether the change is an increase or a decrease.

7) From 61 inches to 51 inches

Find the final price of the item below, given that the tax will be applied to the discounted price.

8) Original price of concert tickets: $129.50
Discount: 9%
Tax: 5%

Use simple interest to find the ending balance, given the following values for principal, rate, and time.

9) $44,300 at 10.8% for 5 years

Solve the equation given in #10.

10) $-2 + 5n = 23$

Solve the equation given in #11.

11) $-40 = 4(1 - 6r) - (-r - 2)$

Solve the equation given in #12.

12) $-\frac{19}{6}r - \frac{10}{3}r = \frac{39}{4}$

Solve the equation given in #13.

13) $2.896 - 2.19x = 1.4x - 5.4x$

Solve the inequality in #14, write its solution set in interval notation, and graph the solution set on a number line.

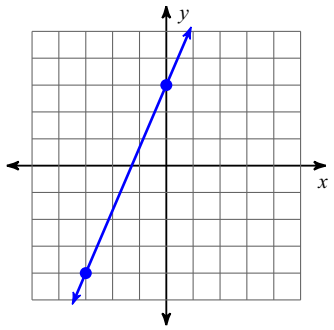
14) $-7 + \frac{n}{2} < 2$

Solve the inequality in #15, write its solution set in interval notation, and graph the solution set on a number line.

15) $-3(-3m + 6) \leq 2(1 + 6m) + 2m$

Find the slope of the line. Assume that the scale on each axis is 1 unit per tick mark.

16)



Find the x- and y-intercepts of the line represented by the equation below. Plot both intercepts on a coordinate system and draw the line through them.

17) $4x + 3y = -12$

Write the slope-intercept form of the equation of the line through the given points.

18) through: $(-5, 1)$ and $(3, 5)$

Find at least three ordered pairs that satisfy the equation and sketch the graph of the line through them.

19) $-3y - 9 = 2x$

Solve the system of equations by the method of substitution.

20) $y = 4x$
$4x - 2y = 16$

Write the point-slope form of the equation of the line described.

21) through: $(-1, 5)$, parallel to $y = -\frac{10}{3}x - 5$

Write the slope-intercept form of the equation of the line described.

22) through: $(5, -3)$, perpendicular to $y = \frac{5}{4}x - 3$

Solve the system by graphing both lines on one coordinate system.

23) $5x - 3y = -12$
$x + 3y = -6$

Solve the system of equations by the method of elimination.

24) $6x - 3y = 9$
$-12x - 7y = -5$

25) Molly and Jennifer are selling flower bulbs for a school fundraiser. Customers can buy packages of tulip bulbs and bags of daffodil bulbs. Molly sold 1 package of tulips bulbs and 3 bags of daffodil bulbs for a total of $51. Jennifer sold 2 packages of tulip bulbs and 12 bags of daffodil bulbs for a total of $192. What is the cost each of one package of tulips bulbs and one bag of daffodil bulbs?