

Math103 Intermediate Algebra - DLA - PreTest 1

Name \_\_\_\_\_

Each of the 18 questions is worth 5 points plus 1 points for each of 10 homework problems for a total of 100

**Solve the equation.**

1)  $5(y + 7) = 6(y - 7)$

2)  $\frac{a}{5} - \frac{1}{5} = -6$

**Solve the formula for the specified variable.**

3)  $A = \frac{1}{2}h(b_1 + b_2)$  for  $b_1$

Use the variable  $x$  for the unknown, and write an equation representing the verbal sentence. Then solve the problem.

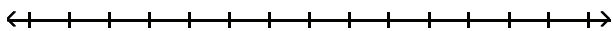
4) When 2 times a number is subtracted from 7 times the number, the result is 50.

Solve the problem.

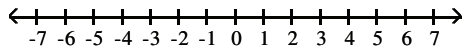
5) In a recent school board election, the two candidates for president received 1159 votes. The loser received 567 fewer votes than the winner. How many votes did the winner receive?

Solve the inequality. Give the solution set in both interval and graph forms.

6)  $30z - 10 > 5(5z + 2)$

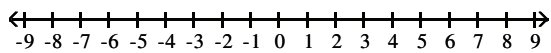


7)  $-14 < 4z + 2 \leq 2$



For the compound inequality, give the solution set in both interval and graph forms.

8)  $5x - 1 < 4$  and  $x - 2 > -1$



Solve the equation.

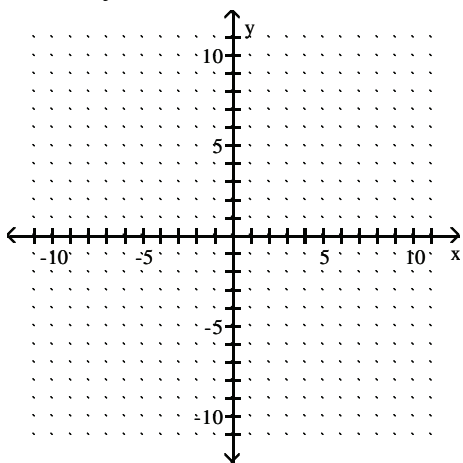
9)  $\left| 8 + \frac{1}{3}x \right| = 5$

Solve the given equation or inequality. If an equation is given, then write the solution set in set notation. If an inequality is given, then write the solution set in interval notation.

10)  $|h + 2| + 8 \leq 11$

Find the x- and y-intercepts. Then graph the equation.

11)  $-3x - 9y = 9$



Find the midpoint of the segment with the given endpoints.

12)  $(-9, -8)$  and  $(9, 9)$

**Find the slope of the line through the pair of points.**

13)  $(-5, -2)$  and  $(-8, -7)$

**Decide whether the pair of lines is parallel, perpendicular, or neither.**

14)  $3x - 4y = -10$  and  $8x + 6y = 7$

**Find an equation of the line that satisfies the conditions. Write the equation in standard form.**

15) Through  $(0, 5)$ ;  $m = \frac{4}{5}$

**Find an equation of the line satisfying the conditions. Write the equation in slope -intercept form.**

16) Through  $(-6, 7)$ ; parallel to  $3x + 7y = 3$

**Solve the problem.**

17) Find  $f(-2)$  when  $f(x) = 2x^2 - 3x - 7$ .

**An equation that defines  $y$  as a function of  $x$  is given. Solve for  $y$  in terms of  $x$ , and replace  $y$  with the function notation  $f(x)$ .**

18)  $5x - 6y = 5$