Tuesday May 20, 201

Aim: How do we review for the Regents?

Do-now: Find the difference of the following in simplest form.

$$\frac{10(x-2)}{x-4} - \frac{2(x+6)}{x-4}$$

1. Researchers interested in determining if there is a relationship between the number of books read in a year and the number of questions you can answer correctly on a quiz show.

a) Write the linear regression for the line of best fit for the data in the chart. Round to the nearest hundredth.

b) State the correlation coefficient.

c) Determine if the correlation is good and explain why or why not.

Books Read	Questions Answered Correctly
38	4
42	3
29	11
31	5
28	9
15	6
24	14
17	9
19	10
11	15
8	19
19	17
3	10
14	14
6	18

2. The area formula for a trapezoid is: $A = \frac{1}{2}(b_1 + b_2)h$

   Solve the formula for b_2

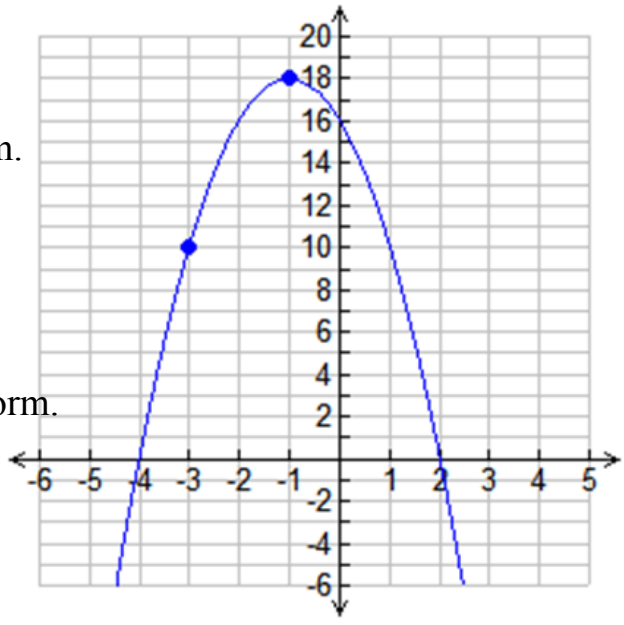
3. Given the following set of data:
   32, 38, 42, 48, 46, 49, 51, 52, 30, 42, 47, 50, 32, 36

a) Find the five number summary for the data

b) What is the interquartile range?

c) Make a box plot for the data.

4. Given the following graph:



a) Write the equation in vertex form.

b) Write the equation in standard form.

c) Write the equation in root form.

5. A high school wants to sell 850 tickets to a dance to make a total profit of $6100. If tickets sold in advance cost $6 and tickets sold at the door cost $8, how many of each type of ticket will the school need to sell. Only an algebraic solution will be accepted.

6. Given the following inequality:

$$2|x-1|<6$$

a) Solve the inequality and graph on a number line.

b) Write the solution as a compound inequality.

c) Write your answer in interval notation.

7. Solve the following for x.

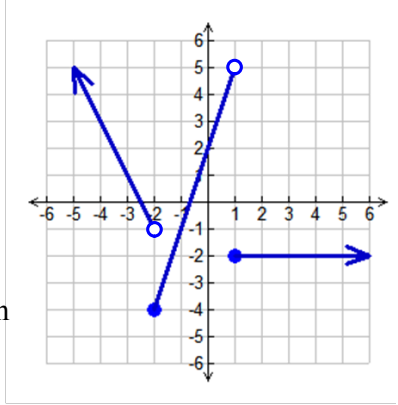
$$\frac{7x}{12}+\frac{1}{4}=\frac{2x-5}{3}$$

8. Given the following piecewise function:

a) State the intervals the function is defined over.

b) Write the equations of the piecewise function.

c) What is the function value when $x = 1$? When $x = -7$? When $x = 10$?



9. Given the points: (6, 2) (-3, -4)

a) Write the equation of the line passing through the two points in point-slope form.

b) Write the equation of the line passing through the two points in slope-intercept form.

c) Write the equation of the line parallel to the line in parts a and b that passes through (-6, 7).

d) Write the equation of the line perpendicular to the line in parts a and b that passes through (8, -3).