Math-2A Name_____ ID: 1

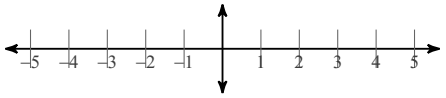
SM2-A HW 6-7 (Quadratic Inequalities)

Date_____ Period____

1) a) Solve the following inequality (write your solution in interval notation).

   b) Graph your solution on the number line.

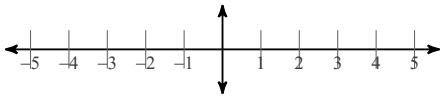
   $x^2 + 3x - 18 > 0$



2) a) Solve the following inequality (write your solution in interval notation).

   b) Graph your solution on the number line.

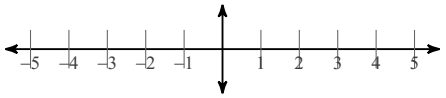
   $x^2 + 2x - 8 < 0$



3) a) Solve the following inequality (write your solution in interval notation).

   b) Graph your solution on the number line.

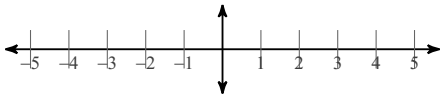
   $x^2 - 5x - 6 > 0$



4) a) Solve the following inequality (write your solution in interval notation).

   b) Graph your solution on the number line.

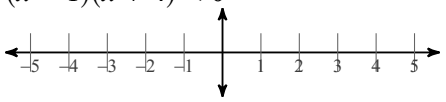
   $(x - 3)(x + 5) > 0$



5) a) Solve the following inequality (write your solution in interval notation).

   b) Graph your solution on the number line.

   $(x - 1)(x + 4) < 0$



6) $\left(x^{\frac{6}{5}} y^{\frac{5}{3}}\right)^{\frac{1}{3}}$

Write each expression in radical form.

7) $6 \cdot (3x)^{\frac{4}{5}}$

Write each expression in exponential form.

8) $\left(\sqrt[5]{4n^2}\right)^3$

Simplify.

9) $\left(\sqrt{3} + 2\right)\left(\sqrt{3} + 4\right)$

10) Joe is tracking the progress of her plant's growth. Today the plant is 25 cm tall. The plant grows at 3.5 cm per day.

a) write an equation that models plant height (h) as a function of days (d).

b) how tall with the plant be in 15 days?

11) Your party budget is $60. You want to buy pizzas and drinks. Pizza's cost $15 and drinks cost $3.

a) Build a table of values with Number of pizzas in the first column and number of drinks in the second column. Start with 0 pizzas, then 1, then 2. (3 x-y pairs).

b) Write an equation that will allow you to predict how many drinks you can buy for this budget as a function of the number of pizzas you purchase.

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

12) $15x - 2y = -14$

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

13) through: $(-4, 1)$, perpendicular to $y = \frac{4}{3}x - 3$