

1. Function Art Project Station

Please answer the following questions HONESTLY on your classwork sheet.

True/False

1. I have read the Function Art Project and know what is expected for the project.
2. I have created an account on desmos.com
3. I have tried to graph a function or I have added a "slider" variable to a function.
4. I know that I am expected to turn in my project equations and a poster picture on Monday 4/28/2014
5. I can use the pre-created projects on Desmos as my project.
6. I have an idea of a design for my Function Art Project.
7. I am going to start working on my Function Art Project over the long weekend.
8. I do not think this project will help my grade at all, and I do not plan to complete this project.

2. Inverse Variation Station

1. On one day of a charity bike ride, the route covers 50 miles. Individual riders cover this distance at different average speeds.
 - a. Make a table and graph that show how the riding time changes as the average speed increases. Show speed values from 4 to 20 miles per hour in intervals of 4 miles per hour.
 - b. Write an equation for the relationship between the riding time t and the average speed s .
 - c. Tell how the riding time changes as the average speed increases from 4 to 8 miles per hour. From 8 to 12 miles per hour. From 12 to 16 miles per hour.
 - d. How do the answers for part (c) show that the relationship between average speed and time is not linear?

3. Rational Functions Station

Graph the following rational function.

$$1. f(x) = \frac{2}{x-5} + 3$$

$$2. g(x) = -\frac{1}{x+4} + 6$$

For each function identify the following key features:

a. domain

b. range

c. vertical asymptote:

d. horizontal asymptote:

e. List ALL transformations that have occurred in comparison to the parent function.

4. Rational Equations Station

Solve the following rational equations. SHOW YOUR WORK. Be sure to list the excluded values.

1.
$$\frac{2}{x+2} + 4 = \frac{5}{x+2}$$

2.
$$\frac{4}{x} = \frac{12}{5x+10}$$

5. Absolute Value Functions Station

Graph the following rational function.

$$1. h(x) = -|x + 2| - 4$$

$$2. g(x) = 3|x - 3| + 1$$

For each function identify the following key features:

a. domain

b. range

c. vertex

d. even/odd/neither

e. end behavior

f. List ALL transformations that have occurred in comparison to the parent function.

6. Radical Function Station

Graph the following radical functions.

1. $2\sqrt{x + 1} + 3$

2. $\sqrt[3]{x} - 4$

3. $-\sqrt{x - 2} + 4$

For each function, identify the following key features:

a. domain

b. range

c. even/odd/neither

d. List ALL transformations that have occurred in comparison to the parent function.

7. Radical Equations Station

Solve the following. Be sure to check for extraneous solutions.

1. $\sqrt{x+2} = 3$

2. $\sqrt[3]{5-11x} = 3$

3. $\sqrt{x+7} = \sqrt{2x-5}$