Math 3 Function Unit Review Stations

Station One: Problem One

Write the equation of the function resulting from shifting the parent of a square root (radical) function 2 units up and 5 units to the left.

Station One: Problem Two

Write the equation of the function resulting from reflecting the parent of a quadratic function over the x-axis and shifting it 4 units to the right.

Station One: Problem Three

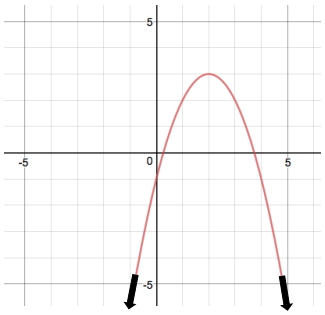
Write an equation for a function resulting from shifting the parent of an exponential function 3 units to the right.

Station One: Problem Four

Write an equation for a function resulting from shifting the parent of a rational function 1 units to the left and 6 units down.

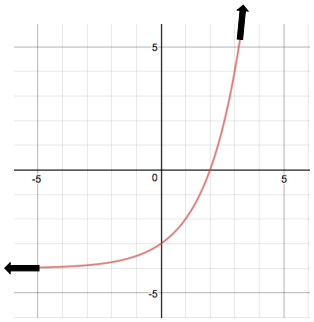
Station Two: Problem One

List the domain, range, and end behavior of the function.



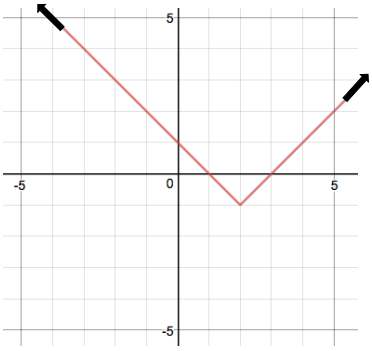
Station Two: Problem Two

List the domain, range, and end behavior of the function.



Station Two: Problem Three

List the domain, range, and end behavior of the function.



Station Two: Problem Four

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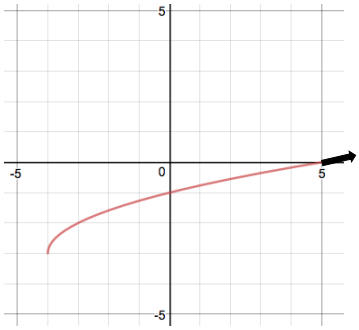
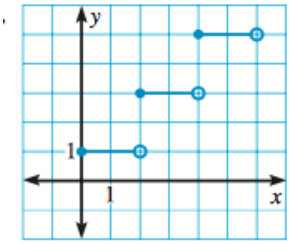


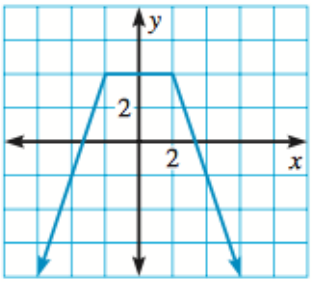
Station Three: Problem One

Write a piecewise function for the graph below.



Station Three: Problem Two

Write a piecewise function for the graph below.



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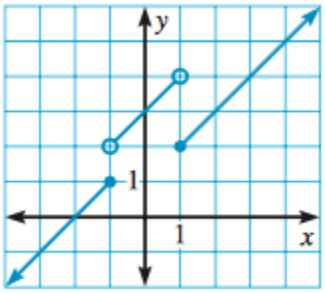

Station Three: Problem Four

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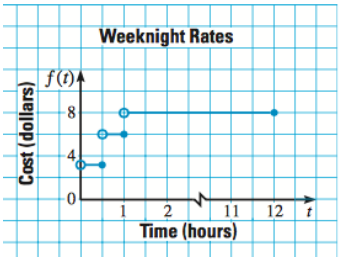

Station Four: Problem One

Evaluate the piecewise function. Write all answers using function notation.

$$f(x) = \begin{cases} 3x - 5, & x > 4 \\ x^2, & x \leq 4 \end{cases}$$

a) $f(7) =$ b) $f(4) =$ c) $f(-3) =$

Station Four: Problem Two

Evaluate the piecewise function. Write all answers using function notation.

$$r(x) = \begin{cases} -2|x+1|, & x \leq 1 \\ 3, & 1 < x < 3 \\ 6 - 2x, & x \geq 3 \end{cases}$$

a) $r(10) =$ b) $r(2) =$ c) $r(0) =$

Station Four: Problem Three

Evaluate the piecewise function. Write all answers using function notation.

$$p(x) = \begin{cases} -x^2 - 2x, & x < -1 \\ x + 2, & x \geq -1 \end{cases}$$

a) $p(-3) =$ b) $p(0) =$ c) $p(-1) =$

Station Four: Problem Four

Evaluate the piecewise function. Write all answers using function notation.

$$g(x) = \begin{cases} -2x - 1, & x \leq 1 \\ -x^2 + 3x - 5, & x > 1 \end{cases}$$

a) $g(1) =$ b) $g(-2) =$ c) $g(0) =$

Station Five: Problem One

Solve the absolute value inequality by graphing. Shade the solution on a number line.

$$|x| + 5 \geq 11$$

Station Five: Problem Two

Solve the absolute value inequality by graphing. Shade the solution on a number line.

$$|x| - 3 > 2$$

Station Five: Problem Three

Solve the absolute value inequality by graphing. Shade the solution on a number line.

$$|5x| \leq 10$$

Station Five: Problem Four

Solve the absolute value inequality by graphing. Shade the solution on a number line.

$$|x + 5| - 6 < -5$$

Station Six: Problem One

Solve the absolute value inequality algebraically. (Show all work.) Shade the solution on a number line.

$$7\left|\frac{n}{3}\right| - 9 < 12$$

Station Six: Problem Two

Solve the absolute value inequality algebraically. (Show all work.) Shade the solution on a number line.

$$2|10b + 7| - 1 > 73$$

Station Six: Problem Three

Solve the absolute value inequality algebraically. (Show all work.) Shade the solution on a number line.

$$4|6 - 2a| + 8 \leq 24$$

Station Six: Problem Four

Solve the absolute value inequality algebraically. (Show all work.) Shade the solution on a number line.

$$9|1 + 8n| - 3 \geq 78$$