

Quiz Friday, Feb 6 on Functions and Function Notation.

Test on Thursday, Feb 12.

More Function Notations:

$$f(x) = 2x - 5 \quad g(x) = x^2 + 3x - 7$$

a) Evaluate $f(3) - g(4)$

$$f(3) = 2(3) - 5$$

$$f(3) = 1$$

$$g(4) = 4^2 + 3(4) - 7$$

$$g(4) = 16 + 12 - 7$$

$$g(4) = 21$$

$$\begin{aligned} \rightarrow f(3) - g(4) &= 1 - 21 \\ &= -20 \end{aligned}$$

b) $g(-2) + f(11)$

$$= -9 + 17$$

$$= 8$$

$$f(11) = 2(11) - 5$$

$$f(11) = 17$$

$$g(-2) = (-2)^2 + 3(-2) - 7$$

$$g(-2) = 4 - 6 - 7$$

$$g(-2) = -9$$

Transformations of Functions (graphing)

5 Functions:

1. Linear Function $f(x) = x$

2. Quadratic Function $f(x) = x^2$

3. Square Root Function $f(x) = \sqrt{x}$

4. Absolute Value Function $f(x) = |x|$

5. Reciprocal Function $f(x) = \frac{1}{x}$

} u
Students

Transformations of a Quadratic

Base/Parent Function: $f(x) = x^2$

Transformed: $f(x) = a(x - d)^2 + c$

a = vertical stretch $\rightarrow$ vertical = y's

d/h = horizontal shift $\rightarrow$ horizontal = x's

c/k = vertical shift

$\rightarrow$ Stretch = multiply

$\rightarrow$ shift = add

$$f(x) = x^2$$

x	y	$x + d$	$ay + c$
-2	4	$-2 + d$	$a(4) + c$
-1	1	$-1 + d$	$a(1) + c$
0	0	$0 + d$	$a(0) + c$
1	1	$1 + d$	$a(1) + c$
2	4	$2 + d$	$a(4) + c$