

Math 2

grab toolkit

Quiz Wednesday
on function transformations
& $+/-/x$ polynomials.

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$y = -f(x)$	$y = f(-x)$
$y = f(x) + c$	$y = f(x) - c$
$y = f(x+c)$	$y = f(x-c)$
$y = c \cdot f(x)$	$y = f(c \cdot x)$

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$(x, -y)$	the graph of the function is <u>reflected</u> across the <u>x-axis</u>	reflected across y-axis	$(-x, y)$
$(x, y+c)$	the graph of the function is shifted <u>up</u> <u>c</u> <u>units</u>	down c units	$(x, y-c)$
$(x-c, y)$	c units to the left	c units to the right	$(x+c, y)$
$(x, c \cdot y)$	$c > 1$ vertically stretch the graph $0 < c < 1$ vertically compresses graph	$c > 1$ horizontally compress graph $0 < c < 1$ horizontally stretch graph	$(c \cdot x, y)$

E. $\underline{3x+8} + \underline{4x-1} + \underline{5x+2}$
 $\underline{12x-9}$

S. $\textcircled{13x+11} \rightarrow P$
 $\underline{3x-2} + \underline{6x+6} \rightarrow \textcircled{9x+4}$
 $\underline{14x+7}$
 $13x+11 - (9x+4)$
 $13x+11 - 9x - 4$

E. $3x(8x-5)$
 $3x(8x) + 3x(-5)$
 $24x^2 - 15x$

R. Area Big: $9x(16x+5)$
Area Little

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Identifying Graph Transformations Name _____

Match each transformation of $f(x)$ listed below with its graph from the bottom of the page. The original graph of $f(x)$ is shown at the right.

1. $f(x)-2$ Down 2

2. $f(2x)$

3. $-f(x+2)$ left reflect

4. $\frac{1}{2}f(x)$ y-axis / vert stretch

5. $f(x)/2$

6. $\frac{1}{2}f(x-2)$

7. $-f(x/2)$

8. $f(-x)+2$ y-axis

9. $\frac{1}{2}f(x)-2$ narrow down

Write the Equation from the Graphed Absolute Value

1) $y=|x|$ (0,0)

2) x -axis reflect
up 5 $\rightarrow f(x)+5$
right 3 $\rightarrow f(x-3)$
 $= -f(x-3)+5$
 $= -|x-3|+5$

3) left 4 up 2
 $f(x+4)+2$
 $|x+4|+2$

4) reflection left 1 up 4
 $-f(x+1)+4$
 $-|x+1|+4$

5) reflected right 1 up 1
 $-f(x-1)+1$
 $-|x-1|+1$

6) right 3 up 4 reflected
 $-f(x-3)+4$
 $-|x-3|+4$

7) $y=|x-3|-5$

8) $y=|x-2|-2$

B.

C.

D.

E.

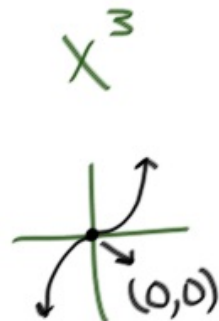
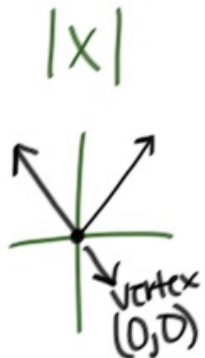
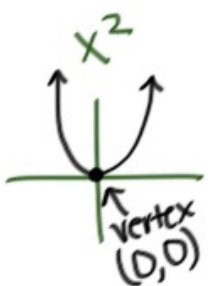
F.

G.

H.

I.

A.



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