Secondary Math 2 Name_____

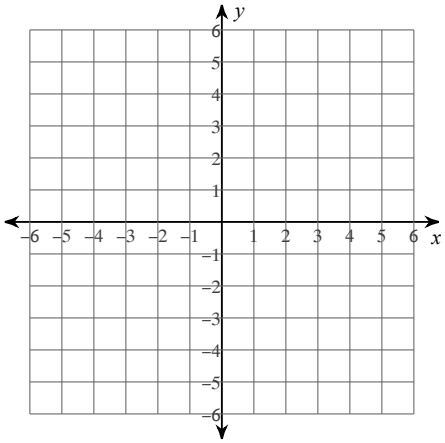
# 8.1 Graphing Transformations

Date_____ Period____

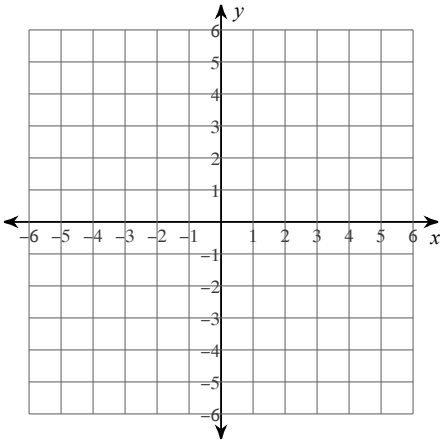
1) Why is an absolute value graph a v-shape?

**Graph each equation.**

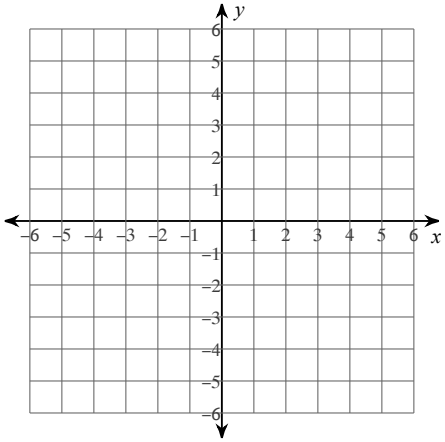
2) $y = -|x| - 3$



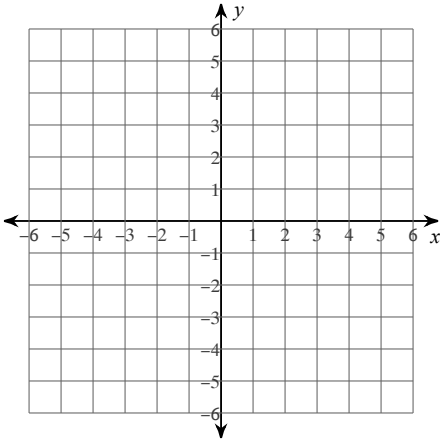
3) $y = |x| + 2$



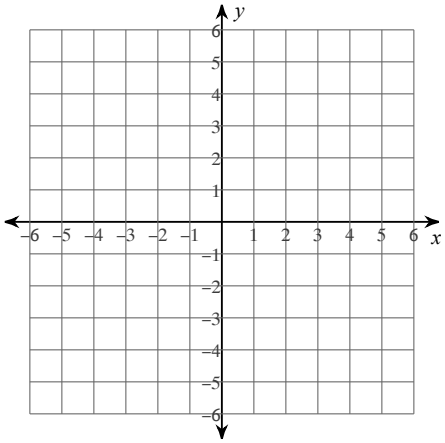
4) $y = |x| - 4$



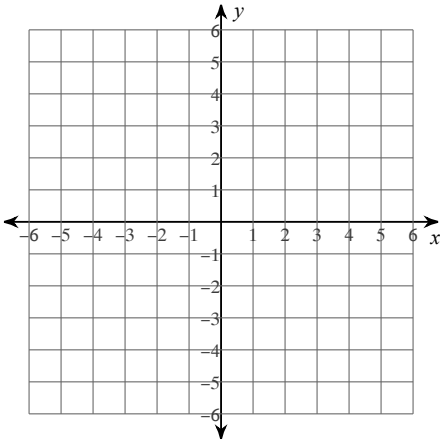
5) $y = -2|x + 3|$



6) $y = 3|x + 4|$



7) $y = 3|x| + 2$



**Describe the transformations necessary to transform the graph of $f(x)$ into that of $g(x)$.**

8) $f(x) = |x|$
$g(x) = -2|x|$

9) $f(x) = x^2$
$g(x) = -x^2 - 1$

10) $f(x) = |x|$
$g(x) = 3|x - 3| + 3$

11) $f(x) = x^2$
$g(x) = -(x + 2)^2 + 1$

12) $f(x) = |x|$
$g(x) = -\frac{1}{3} \cdot |x + 2| - 1$

13) $f(x) = |x|$
$g(x) = -2|x - 2| + 3$

**Transform the given function $f(x)$ as described and write the resulting function as an equation.**

14) $f(x) = x^2$
compress vertically by a factor of 3
reflect across the x-axis
translate up 3 units

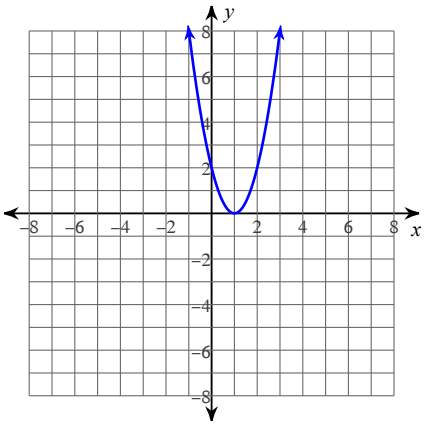
15) $f(x) = x^2$
expand vertically by a factor of 2
translate right 1 unit
translate down 2 units

16) $f(x) = x^2$
compress vertically by a factor of 2
reflect across the x-axis
translate right 1 unit
translate down 1 unit

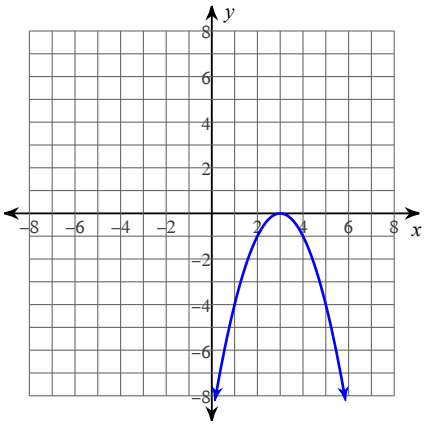
17) $f(x) = x^2$
expand vertically by a factor of 2
reflect across the x-axis
translate left 3 units
translate up 2 units

**Identify the parent function $f(x)$ and write an equation for the function given.**

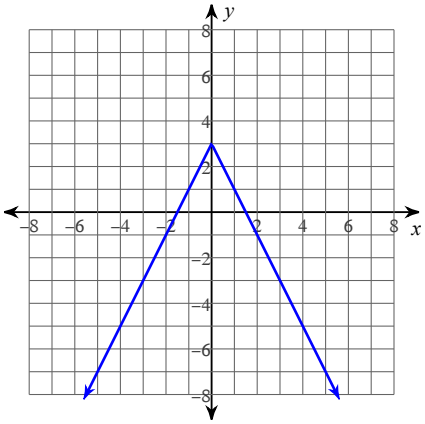
18)




19)




20)

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