

1. Give the correct function notation for the **HEAVY** lined object, given that the lighter object is $y = f(x)$.

<p>left 2 up 4 $f(x)$</p>	<p>$f(x)$ reflected about x-axis</p>	<p>not shifted! $f(x)$ VS factor 2</p>
<p>reflected about y-axis HC factor $\frac{1}{2}$ $b =2$</p>	<p>HC factor $\frac{1}{2}$ D 4</p>	<p>VS factor 2 HC factor $\frac{1}{2}$</p>
<p>reflect in x-axis $a < 0$ VC $\frac{1}{2}$ D 6 $-2 \cdot \frac{7}{2} = -7$</p>	<p>VS $\frac{5}{4}$ R 6</p>	<p>width 2 width 3 HS factor $\frac{3}{2}$ b = $\frac{2}{3}$ R 3</p>

2. Describe how the graph of each of the following functions can be obtained from the graph of $y = f(x)$.
HINT: STRETCH & REFLECT FIRST; SLIDE LAST.

- | | |
|---|--|
| a) $y = f(x-3) + 2$ Right 3, up 2 | b) $y = 4f(x) - 7$ VS 4, D 7 |
| c) $y = f(4(x-7))$ HC $\frac{1}{4}$, Right 7 | d) $y = -\frac{1}{3}f(x)$ reflect about x-axis, VC $\frac{1}{3}$ |
| e) $y = -f(x+6)$ reflect about x-axis, L 6 | f) $y = f(-2x) + 8$ reflect about y-axis, HC $\frac{1}{2}$, U 8 |
| g) $y = -4f(-\frac{1}{3}x)$ reflect about x-axis VS 4
" " y-axis HS 3 | h) $y = 2f(3(x+4)) + 5$ VS 2, HC $\frac{1}{3}$, L 4, U 5 |
| i) $y = \frac{3}{4}f(\frac{3}{4}x) - 1$ VC $\frac{3}{4}$, HS $\frac{4}{3}$, D 1 | |