

**Advanced Precalculus**  
**Function Transformations**

Name: \_\_\_\_\_

$$y = a \cdot f[b(x - c)] + d$$

*a*

*b*

*c*

*d*

[ EX 1 ]       $y = -2f(x - 4) + 3$

Describe it:

If  $(-3, 1)$  is a point on  $y = f(x)$ ,  
what point is on the transformed function?

[ EX 2 ]       $y = 4f(x + 5) - 1$

Describe it:

If  $(-3, 1)$  is a point on  $y = f(x)$ ,  
what point is on the transformed function?

[ EX 3 ]       $y = -\frac{1}{2}f(3x - 6) - 1$

Describe it:

If  $(5, 3)$  is a point on  $y = f(x)$ ,  
what point is on the transformed function?

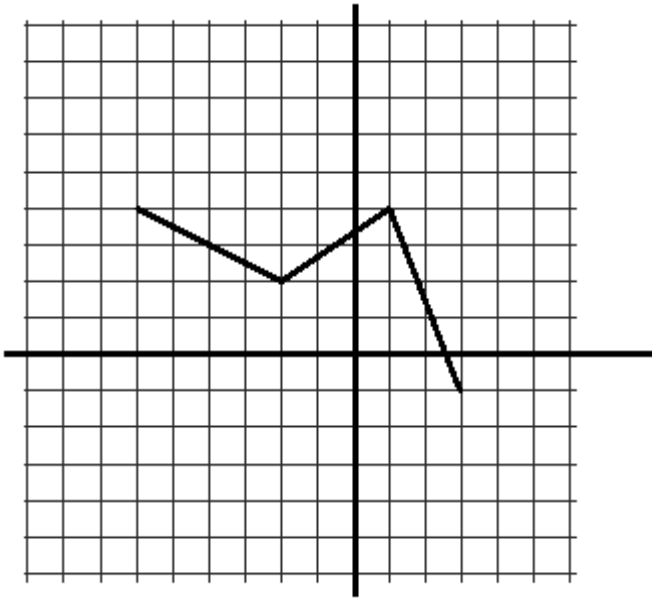
[ EX 4 ]       $y = \frac{1}{3}f\left(\frac{5}{2} - 3x\right) - 3$

Describe it:

If  $(-7, -4)$  is a point on  $y = f(x)$ ,  
what point is on the transformed function?

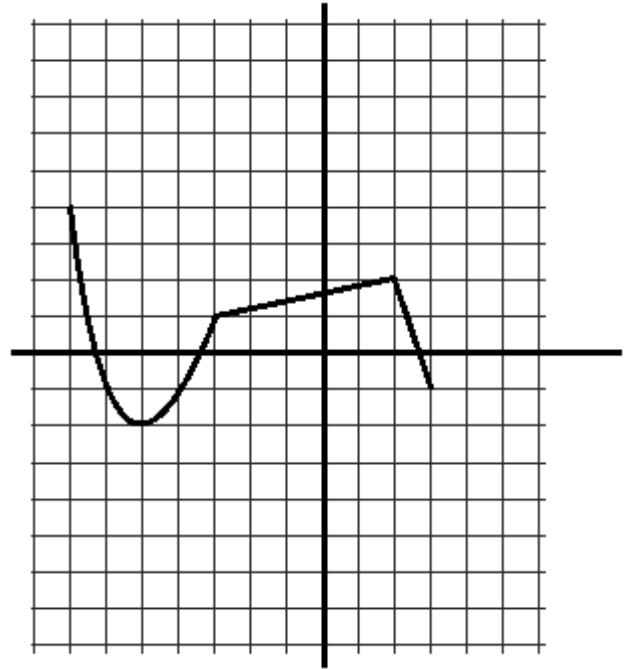
[ EX 5 ] Given the graph of  $y = f(x)$ ,  
draw the graph of

$$y = 2f(x+3) - 5$$



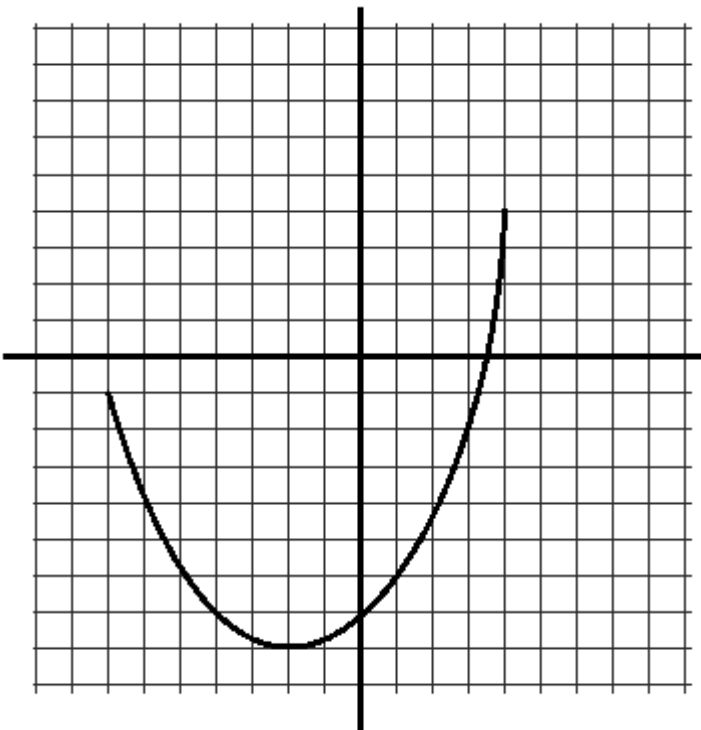
[ EX 6 ] Given the graph of  $y = f(x)$ ,  
draw the graph of

$$y = -2f(x+1) + 3$$



[ EX 7 ] Given the graph of  $y = f(x)$ ,  
draw the graph of

$$y = -f(4-x) - 1$$



[ EX 8 ] Given the graph of  $y = f(x)$ ,  
draw the graph of

$$y = \frac{1}{2}f(x-1) + 4$$

