Name: _____ **Date:** _____ **Period:** _____

10.5 Horizontal Shifts

1) Translate $f(x) = -5x + 2$, horizontally 7 units

New equation: _____

Which way does it move?: _____

2) Translate $f(x) = \left(\frac{1}{3}\right)^x + 9$, horizontally -7 units

New equation: _____

Which way does it move?: _____

3) Translate $f(x) = 4x + 1$, horizontally -8 units

New equation: _____

Which way does it move?: _____

4) Translate $f(x) = \left(\frac{4}{5}\right)^x - 6$, horizontally -11 units

New equation: _____

Which way does it move?: _____

5) Translate $f(x) = -\frac{7}{8}x + 5$, horizontally 2 units

New equation: _____

Which way does it move?: _____

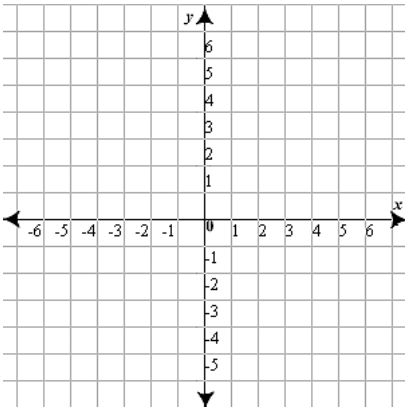
6) Translate $f(x) = -3^x + 5$, horizontally 5 units

New equation: _____

Which way does it move?: _____

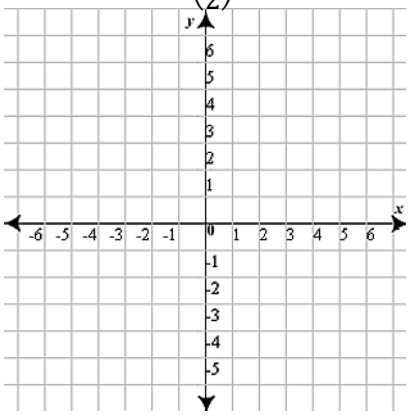
Draw a sketch of the functions below:

$6a)\ f(x) = 2x + 1$



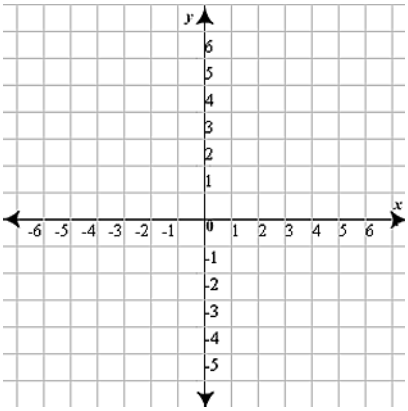
Slope: _____

$7a)\ f(x) = \left(\frac{1}{2}\right)^x + 1$



Factor: _____

$6b)\ f(x) = 2x + 7$

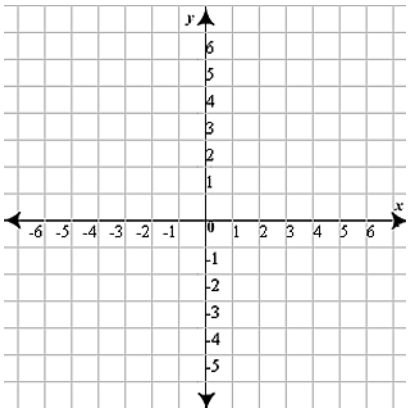


Slope: _____

What is the horizontal shift? _____

Which direction?

$7b)\ f(x) = \left(\frac{1}{2}\right)^{x-3} + 1$

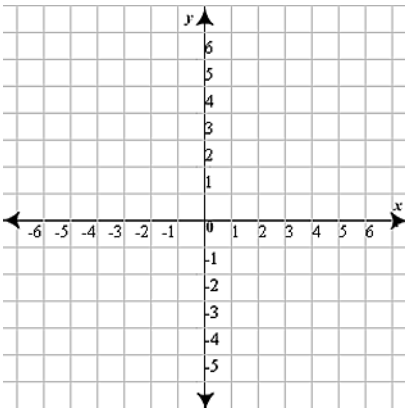


Factor: _____

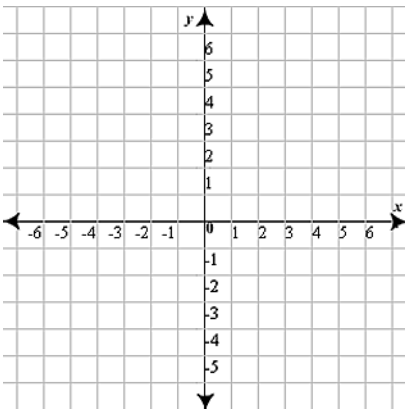
What is the horizontal shift? _____

Which direction?

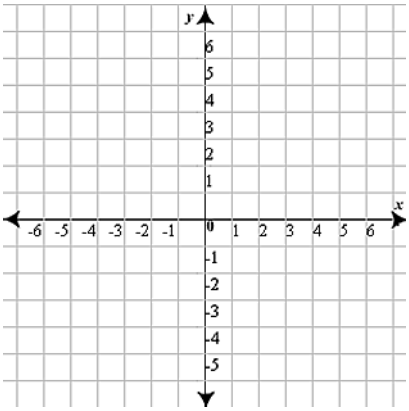
8) Translate $f(x) = -\frac{2}{3}x + 5$, horizontally -3 units



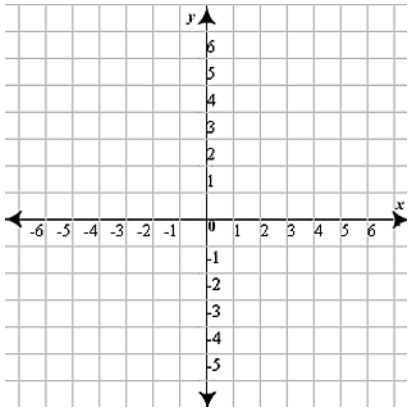
9) Translate $f(x) = 3^x + 1$, horizontally 2 units



10) Translate $f(x) = \frac{1}{2}x$, horizontally -4 units



11) Translate $f(x) = 2^x - 3$, horizontally 2 units



Review:

12) If $f(x) = -2x + 4$, find $f(-7)$.

13) If $f(x) = 6x - 2$, find $f(13)$.

14) If $f(x) = -2x + 4$, and $g(x) = 5x - 2$, find $f\big(g(-2)\big)$.