Geometry   Name_____

Module 7.4   period   1   2   3   5   6

STARTER:

Write the translation vector that describes how pre-image A is carried onto each image.	Describe the transformation that carries preimage A onto each image:
1) onto A': $(x,y) \rightarrow ($ _____ , _____ $)$	1) onto A':
2) onto A": $(x,y) \rightarrow ($ _____ , _____ $)$	2) onto A":
3) onto A''': $(x,y) \rightarrow ($ _____ , _____ $)$	3) onto A''':

Topic: Vertical transformations of graphs.

1 Use the graph below to draw a new graph that is translated UP 3 units.	2 Use the graph below to draw a new graph that is translated DOWN 4 units.
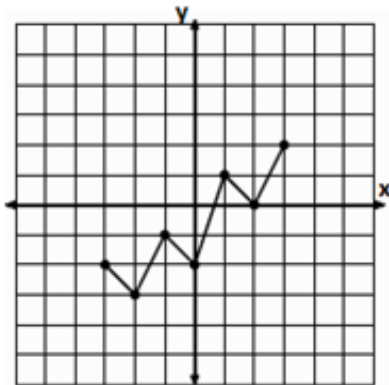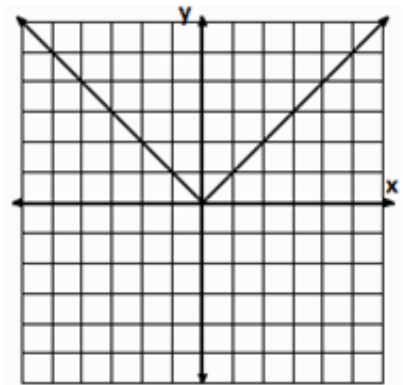
You are given the equation of f(x) and the transformation g(x) = f(x) + k. Graph both f(x) and g(x). Describe how g(x) is transformed from f(x). Write the linear equation for g(x) below the graph.

3. $f(x) = 2x - 4$ $g(x) = f(x) + 3$ Describe: $g(x) =$ _____	4. $f(x) = 0.5x$ $g(x) = f(x) - 3$ Describe: $g(x) =$ _____

The equation and the graph of f(x) are given. Based on the given graph, describe how f(x) has been translated to produce g(x).   Write the equation of g(x) in the form g(x) = f(x) + k, then simplify the equation of g(x) into slope-intercept form.

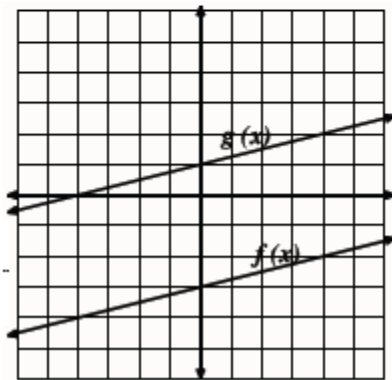5. $f(x) = \frac{1}{4}x - 3$

   Describe how f(x) has been
   a. transformed to produce g(x).

   b. $g(x) = $ _____
      Translation form

   $g(x) = $ _____
      Slope-Intercept form

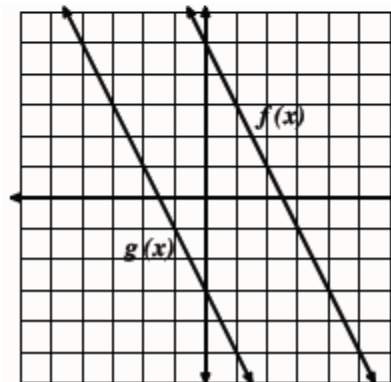6. $f(x) = -2x + 5$

   Describe how f(x) has been
   a. transformed to produce g(x).

   b. $g(x) = $ _____
      Translation form

   $g(x) = $ _____
      Slope-Intercept form

You are given information about $f(x)$ and $g(x)$. Rewrite $g(x)$ in translation form:
$g(x) = f(x) + k$ Describe how f(x) has been transformed to produce g(x).

7. $f(x) = 7x + 13$
    $g(x) = 7x - 5$

    $g(x) = $ _____
       Translation form

    Describe:

8. $f(x) = 22x - 12$
    $g(x) = 22x + 213$

    $g(x) = $ _____
       Translation form

    Describe:

9. $f(x) = -15x + 305$
    $g(x) = -15x - 11$

    $g(x) = $ _____
       Translation form

    Describe:

10.

x	f(x)	g(x)
3	11	26
10	46	61
25	121	136
40	196	211

$g(x) = $ _____
   Translation form

Describe:

11.

x	f(x)	g(x)
-4	5	-42
-1	-1	-48
5	-13	-60
20	-43	-90

$g(x) = $ _____
   Translation form

Describe:

12.

x	f(x)	g(x)
-10	4	-15.5
-3	7.5	-12
22	20	0.5
41	29.5	10

$g(x) = $ _____
   Translation form

Describe: