Graphing Functions (1.4)

"Given a function, I can describe all transformations applied to its parent function. I can determine all ordered pairs of transformed functions using the graphical, algebraic and numerical techniques. I can apply what I have learned in familiar and unfamiliar settings."

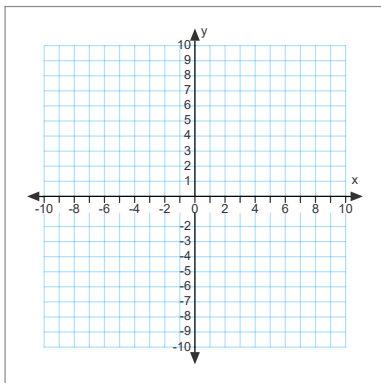The function $y = f(x)$ can be transformed into $y = af[k(x-d)] + c$

The role of *a*, *k*, *d* and *c*...

Practice: Transforming Functions. Click here.

Example 1 State the function that would result from horizontally compressing $y = f(x)$ by a factor of 0.25, and then translating it 3 units left.

Example 2 Given: $f(x) = \sqrt{x}$
   a) Describe the transformations defined by $y = -f[3x+3]$.
      in the order they would be applied to $f(x) = \sqrt{x}$
   b) Graph $y = -f[3x+3]$ using several techniques.
   c) State the new equation of the transformed function.
   d) Complete the table.

	$y = -f[3x+3]$
Interval(s) of increase	
Interval(s) of decrease	
End behaviour(s)	
Symmetry	

Transformations "Refresher" Pages 1 to 5 click here.

MathSIP!
1. Describe the transformations of the parent function in the order applied to create:
   a) $f(x) = \sqrt{4x-3}$
   b) $y = f(-\tfrac{1}{3}x + \tfrac{2}{3}) + 3$

2. Page 35 #2, 3*find graphically only, 4de, 5c, 6c, 7, 9f*find algebraically only, 13, 15.

TRANSFORMATIONS

$$y = af(k(x - d)) + c$$

1

2

3