

## Functions F3 – Transforming Functions

State the name of the basic function, **then** explain how the graph of the second function is transformed from the basic function.

1.  $f(x) = x^2$ ,  $f^*(x) = x^2 + 3$

2.  $f(x) = \sqrt{x}$ ,  $f^*(x) = 2\sqrt{x+2}$

3.  $f(x) = |x|$ ,  $f^*(x) = -|2x| - 6$

4.  $f(x) = x$ ,  $f^*(x) = x - 3$

5.  $f(x) = x^3$ ,  $f^*(x) = \frac{1}{2}(x+3)^3$

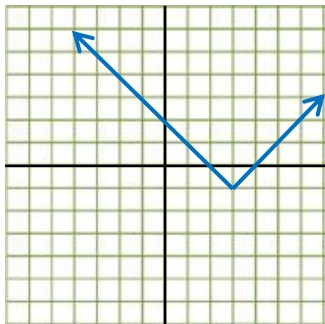
6.  $f(x) = |x|$ ,  $f^*(x) = |-x - 2|$

7.  $f(x) = \sqrt{x}$ ,  $f^*(x) = \sqrt{4x+8}$

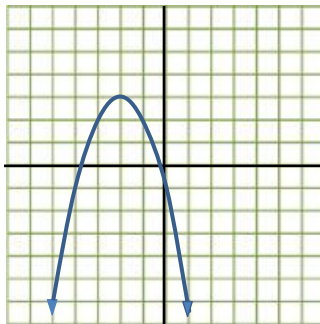
8.  $f(x) = x^2$ ,  $f^*(x) = -6(5x+4)^2 + 1$

Write the equation for the following functions using the graph:

9.



10.



11.

