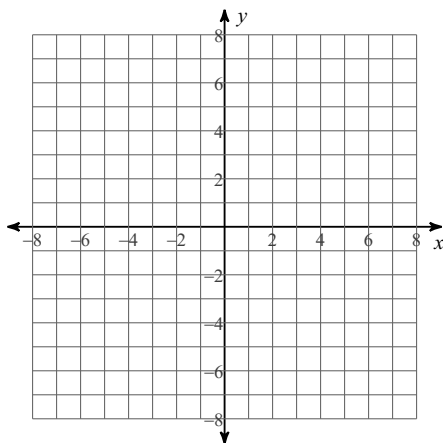


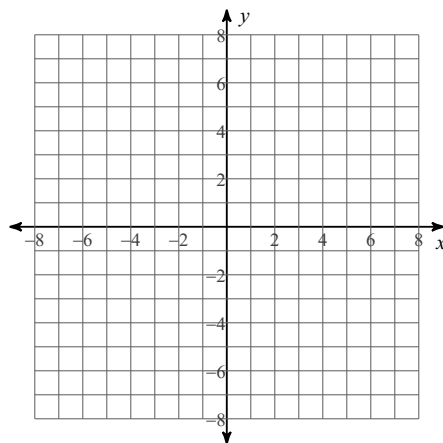
## HW31: Horizontal Shifts

**Graph the four basic functions.**

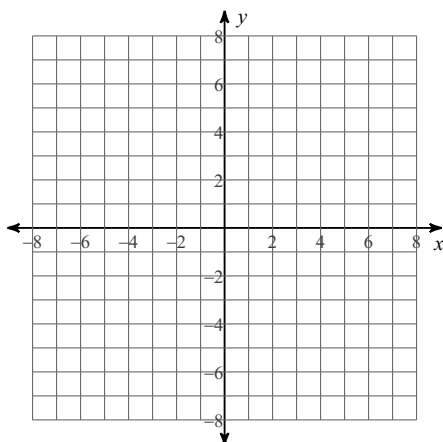
1) Linear



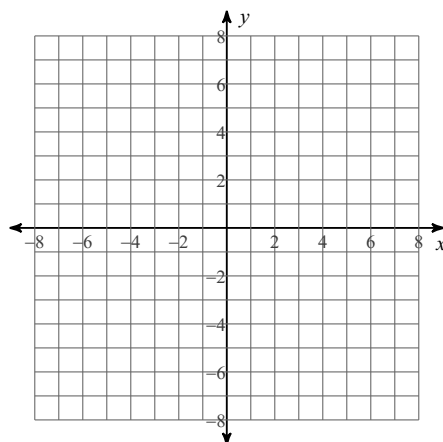
2) Absolute Value



3) Quadratic



4) Square Root

**Identify the parent function and predict what will happen to the graph of the function.**

5)  $f(x) = |x - 2|$

6)  $f(x) = (x - 12)^2$

7)  $f(x) = |x + 7|$

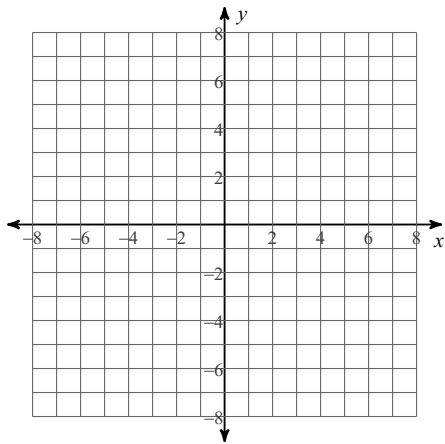
8)  $f(x) = -\sqrt{x}$

9)  $f(x) = |x + 100|$

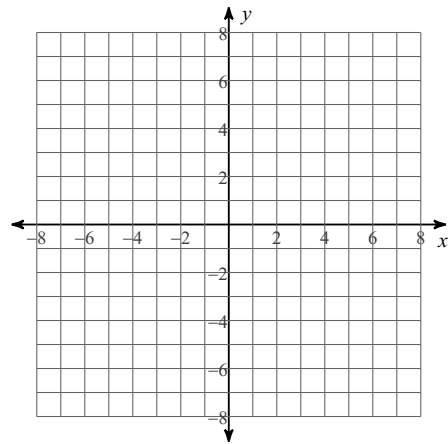
10)  $f(x) = \sqrt{-x}$

**Graph the functions.**

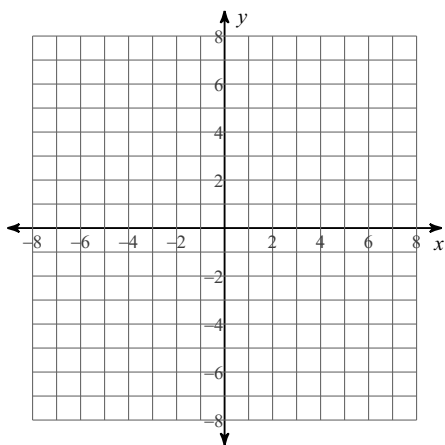
11)  $f(x) = (x - 3)^2$



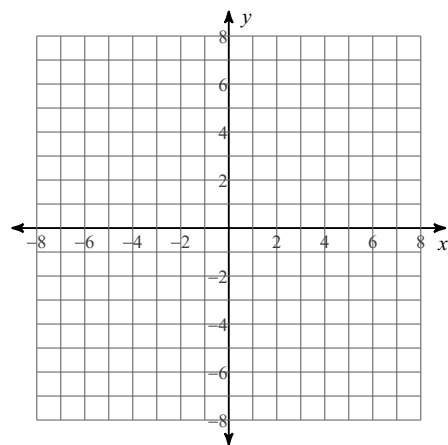
12)  $f(x) = (x - 5)^2$



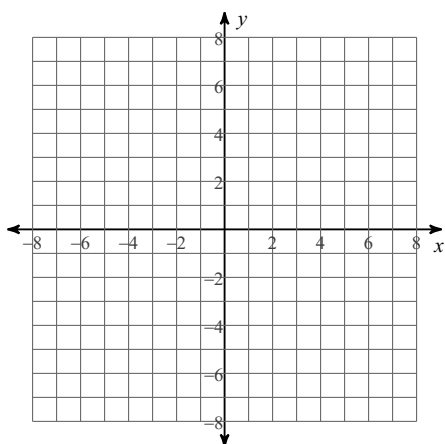
13)  $f(x) = |x + 2|$



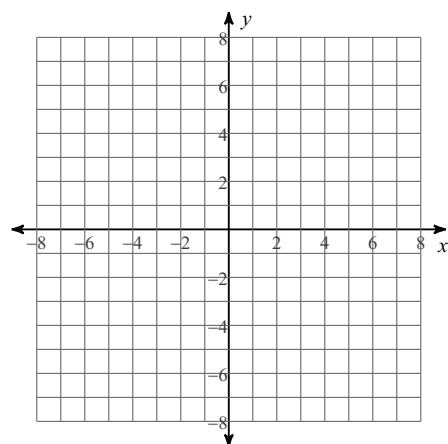
14)  $f(x) = |x - 2|$



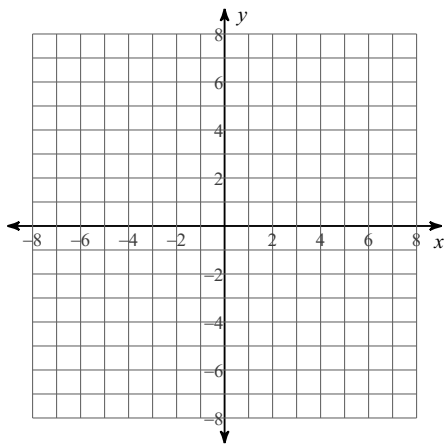
15)  $f(x) = -\sqrt{x}$



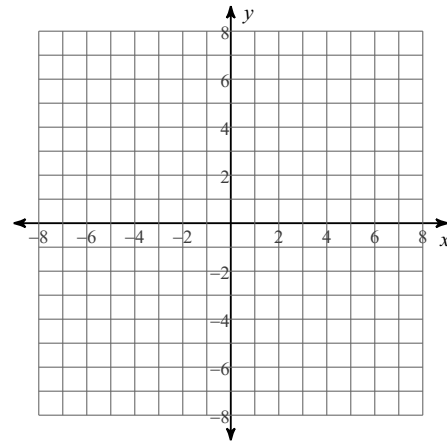
16)  $f(x) = \sqrt{-x}$



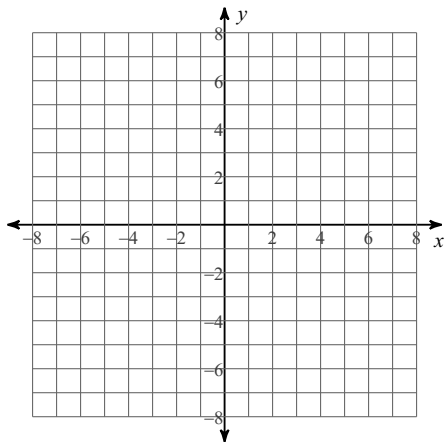
17)  $f(x) = \sqrt{x+6}$



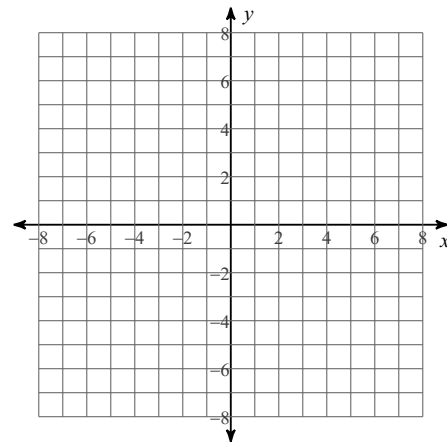
18)  $f(x) = |x| - 5$



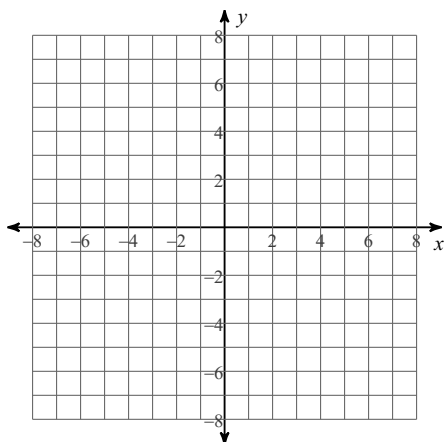
19)  $f(x) = (x+4)^2$



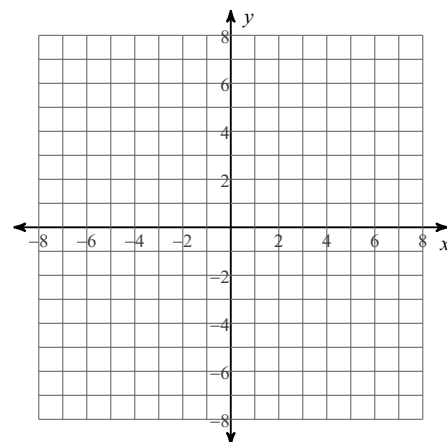
20)  $f(x) = (x-4)^2$



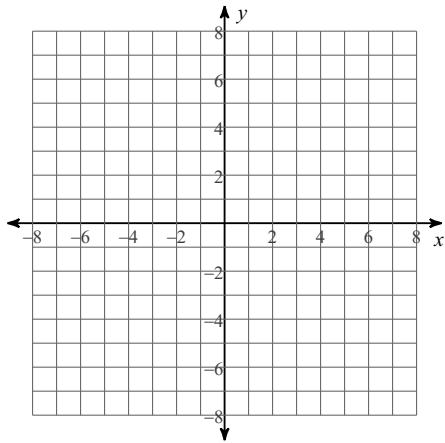
21)  $f(x) = |x-5|$



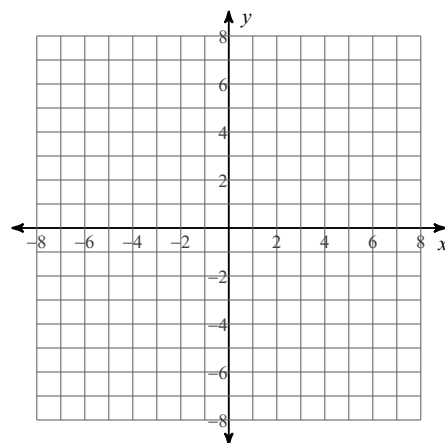
22)  $f(x) = -|x|$



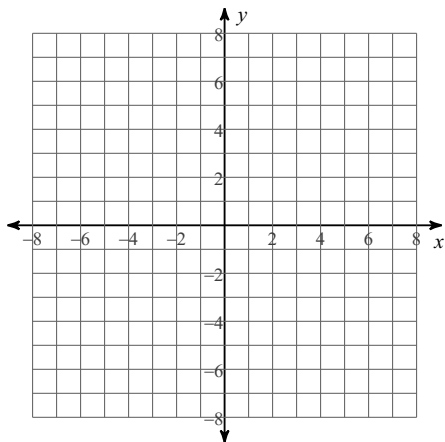
23)  $f(x) = -x^2$



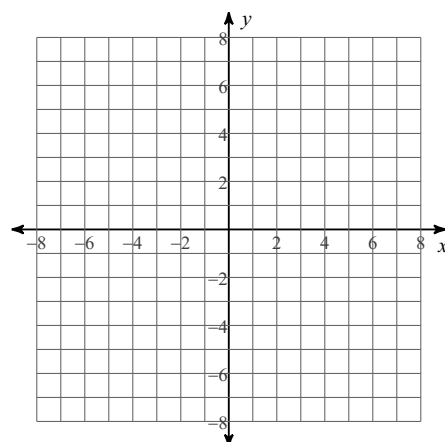
24)  $f(x) = \sqrt{x-3}$



25)  $f(x) = |x-2| + 4$



26)  $f(x) = (x+2)^2 - 5$



**Find the slope of the line through each pair of points.**

27)  $(-1, -15), (15, -15)$

28)  $(13, -13), (-14, 15)$

29)  $(-16, 20), (9, 1)$

30)  $(-12, 9), (17, 13)$