

Pre-Calculus  
Section 2.1 KEY

Rewrite each quadratic function into vertex form. State the horizontal and vertical shifts of the given function.

1.  $f(x) = (x - 4)^2 + 3$   
 $h = 4; k = 3$

2.  $f(x) = (x + 2)^2 - 19$   
 $h = -2; k = -19$

3.  $f(x) = (x - 6)^2 - 6$   
 $h = 6; k = -6$

4.  $f(x) = (x + 5)^2 - 49$   
 $h = -5; k = -49$

5.  $f(x) = (x - 9)^2 - 92$   
 $h = 9; k = -92$

6.  $f(x) = (x - 7)^2 - 50$   
 $h = 7; k = -50$

7.  $f(x) = (x + 1)^2 + 6$   
 $h = -1; k = 6$

8.  $f(x) = (x + 8)^2 - 44$   
 $h = -8; k = -44$

9.  $f(x) = 2(x + 4)^2 - 41$   
 $h = -4; k = -41$

10.  $f(x) = 2(x - 6)^2 - 61$   
 $h = 6; k = -61$

11.  $f(x) = 2(x - 2)^2 + 17$   
 $h = 2; k = 17$

12.  $f(x) = 2(x + 9)^2 - 261$   
 $h = -9; k = -261$

13.  $f(x) = 3(x + 3)^2 - 67$   
 $h = -3; k = -67$

14.  $f(x) = 3(x - 2)^2 + 4$   
 $h = 2; k = 4$

15.  $f(x) = 3(x - 1)^2 + 17$   
 $h = 1; k = 17$

16.  $f(x) = 3(x + 4)^2 - 83$   
 $h = -4; k = -83$