UNIT 2 WORKSHEET 19
FINDING THE EQUATION OF A QUADRATIC FUNCTION

Find the equation of a parabola that opens up, and has the following x intercepts.

1) (-3,0) and (4,0)

$y = x^2 - x - 12$

2) (-12,0) and (-3,0)

$y = x^2 + 15x + 36$

3) (2,0) and (5,0)

$y = x^2 - 7x + 10$

Find the equation of a parabola that opens down, and has the following x intercepts.

4) (-2,0) and (6,0)

$y = -x^2 + 4x + 12$

5) (1,0) and (7,0)

$y = -x^2 + 8x - 7$

6) (5,0)

$y = -x^2 + 10x - 25$

7) Find the equation of a parabola that has a vertex of (-3,2) and contains the point (4,7).

$y = \frac{5}{49}(x+3)^2 + 2$

8) Find the equation of a parabola that has a vertex of (4,5) and contains the point (-2,-2).

$y = \frac{-7}{36}(x-4)^2 + 5$

9) Find the equation of a parabola that has a vertex of (-2,-3) and contains the point (4,1).

$y = \frac{1}{9}(x+2)^2 - 3$

10) Find the equation of a parabola that has a vertex of (0,3) and passes the x axis at (7,0).

$y = \frac{-3}{49}x^2 + 3$

11) Find the equation of a parabola that has a vertex of (3,-1) and has a y intercept of (0,-8).

$$y = -\frac{7}{9}(x-3)^2 - 1$$

12) Find the equation of a parabola that has a vertex of (5,0) and has a y intercept of (0,-12).

$$y = \frac{-12}{25}(x-5)^2$$

13) Find the equation of a parabola that passes through (1,6), (2,5) and (0,5).

$$y = -x^2 + 2x + 5$$

14) Find the equation of a parabola that passes through (0,6), (2,2) and (5,11).

$$y = x^2 - 4x + 6$$

15) Find the equation of a parabola that passes through (3,-10), (4,0) and (6,8).

$y = -2x^2 + 24x - 64$

16) Find the equation of a parabola that passes through (0,6), (-6,0) and (2,16).

$y = \frac{1}{2}x^2 + 4x + 6$