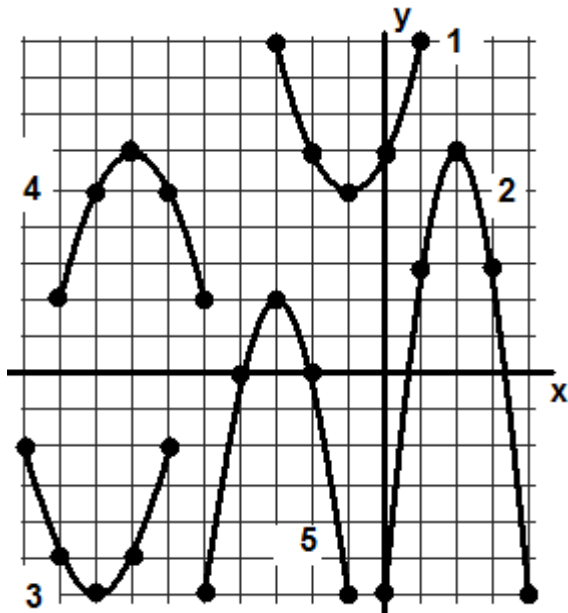


HW: Parabolas

I. Write the equation for each of the parabolic graphs in the picture below.



II. Complete the square and state the transformations used to $y=x^2$ to graph each of the following:

6.) $f(x) = -2x^2 - 20x - 43$

7.) $f(x) = \frac{x^2}{2} - 8x + 37$

8.) $f(x) = 3x^2 + 6x + 2$

9.) $f(x) = -x^2 + \frac{5}{2}x - \frac{1}{16}$

III. Complete the square on each equation. Then, state the center point and radius of each circle.

10.) $x^2 - 8x + y^2 - 10y + 5 = 0$

11.) $4x^2 + 4y^2 + 16y = 8x + 101$

IV. Find an equation of the parabola with the following properties.

12.) Focus: (-6, 6); Directrix: $y = -6$

13.) Focus: (-6, 6); Directrix: $x = 6$

14.) Vertex: (-6, 6); Directrix: $x = 6$

15.) Vertex: (-6, 6); Directrix: $y = -6$

16.) Vertex: (-6, 6); Focus: (-6, 0)

17.) Vertex: (-6, 6); Focus: (-6, 12)

18.) Vertex: (-6, 6); Focus: (-12, 6)

19.) Vertex: (-6, 6); Focus: (6, 6)