Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parabola worksheet with vertex **not** at (0,0).

Must show work to receive full credit.

Find the vertex, focus, axis of symmetry, and directrix of the parabolas below.

1) (2)

3) (4)

5) Graph problem #1

6) Graph problem #2

7) Graph problem #3

8) Graph problem #4

Extra Credit: Find the equation of the parabola given the vertex and either the focus or directrix.

a) vertex: (2,-1), focus (2,-4)

b) vertex: (-3,6), directrix: x = 2