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

Parabola worksheet with vertex at (0,0).

Must show work to receive full credit.

Determine if the parabola opens to the left, right, up or down.

1) $x^{2}=4y$ (2) $y^{2}=-\frac{1}{2}x$ (3) $x^{2}=-y$

Find the focus and directrix of the following parabolas.

4) $x^{2}=-2y$ (5) $y^{2}=\frac{1}{4}x$ (6) $y^{2}=-5x$

Find the equation of the parabola given that the vertex is (0,0) and the focus or directrix.

7) focus: (4,0) (8) directrix: x = 10 (9) focus $\left(0,\frac{7}{2}\right)$

Extra Credit: Graph the following parabola. Identify the focus and directrix as well. Must show complete graph and all information. (5 points each)

a) $x^{2}=8y$ (b) $y^{2}=\frac{1}{2}x$ (c) $x^{2}=-3y$