1. a) How do you know if an equation b) Circle all the equations below that will graph

 will graph as a parabola? as a parabola.

 $y=(x+4)(2x-1)$ $y=6x+8$

 $y=x^{4}-x^{2}$ $y=x^{2}-3x+9$

2. Rewrite the following quadratic equation 3. Multiply: $(3x-4)^{2}$

 in standard form: $y=(x-6)(2x+3) $

4. Identify the vertex of the function: 5. Identify the roots of the function: $y=(x-8)(x+2)$.

 $y=2(x+1)^{2}+9. $

6. If a parabola opens down and has a vertex 7. A parabola is known to have 2 roots and a vertex

 of (3, -5), how many roots will it have? at (3, -5). If one *x*-intercept is at the at (1, 0),

 what are the coordinates of other *x*-intercept?

8. Write 3 equations (one in each form) 9. Write 3 equations (one in each form)

for the given parabola: for the given parabola:

 

Vertex Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Vertex Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Factored Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Factored Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Standard Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Standard Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. Factor: $x^{2}-9x-36$ 11. Factor: $3x^{2}+15x+12$

12. Factor: $4x^{2}+6x-18$ 13. Factor: $9x^{2}-25$

**Work Space:** Here are some spare coordinate grids to work out problems if needed:

   