Name: _____ **Class:** _____ **Date:** _____ **ID: A**

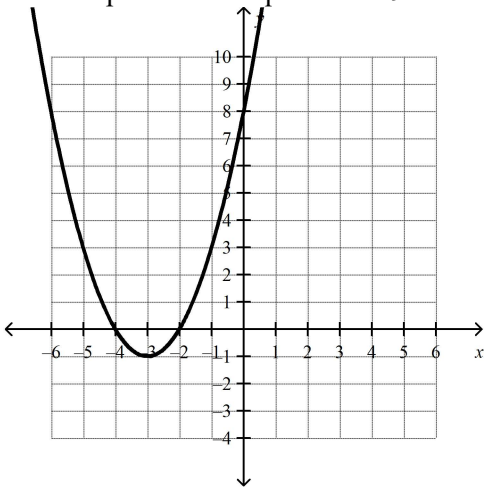
Forms of Parabolas - worksheet

There are **three** parts to each question #1-8.
Part 1: Determine the form of the equation.
Part 2: If it is a parabola, determine whether it opens up or down.
Part 3: If it is a parabola in a specific form, state one other fact about the parabola.

a. Vertex form
b. Factored form
c. Standard form
d. It's not a parabola
e. It is a parabola, but it doesn't fit any form.

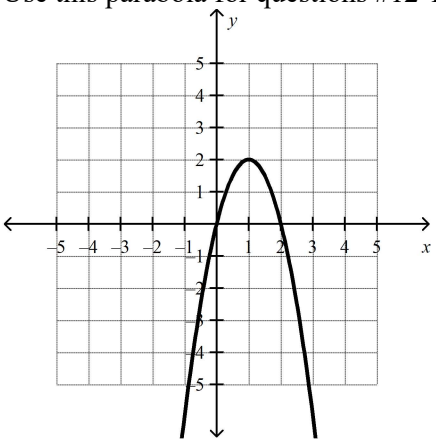
1. $y = 4x^2 - 8x + 5$
2. $y = -2(x-4)(x+3)$
3. $y = 3x - 5$
4. $f(x) = -(x+5)^2 - 4$
5. $g(x) = (x+2)^2 - 3x$
6. $y = -6|x-3| + 1$
7. $y = -4x^2 - 6x$
8. $f(x) = 2x(x+7)$

Use this parabola for questions #9-11.

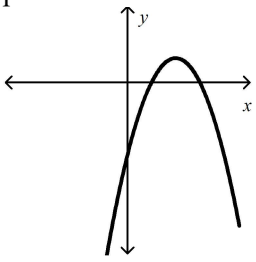


9. Write the **vertex form** of the parabola.
10. Write the **factored form** of the parabola.
11. Write the **standard form** of the parabola.

Use this parabola for questions #12-14.



12. Write the equation in **factored form**.
13. Write the equation in **vertex form**.
14. Write the equation in **standard form**.
15. Which of these <u>could</u> be the equation for the parabola shown?



a. $y = x^2 - 3x - 4$
b. $y = -2x^2 + 3x - 3$
c. $y = -2x^2 + 3x + 4$
d. $y = 3x^2 - 2x + 1$