A1 S2 w7d2 9-2 Quadratic Functions

Alg 1 Week 7 Tue Warm Up

1. Skill 12: Simplify Exponential Expressions. Simplify, leaving no negative exponents. Show all steps.

$$\frac{a^2(a^3)^{-2} \bullet a^{-1}}{a^2}$$

2. Skill 13: Multiplying Polynomials: Use a rectangle to multiply and simplify.

$$(x^2 + 5x + 6)(4x - 3)$$

3. Skill 14: Factor a trinomial. Factor completely.

$$18x^2 - 33x + 12$$

4. Add or subtract, then put answer in standard form.

$(3x^2 - 4x + 7) + (-x^2 - 11x + 3)$

5. Skill 15: Factor Special Polynomials. Factor completely.

$4x^2 - 12x + 9$

6. Find the base of a triangle whose area is 130 cm^2 and has a height of 13 cm.

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Alg 1 Week 7 Tue **Parabola Graphing Practice #1**

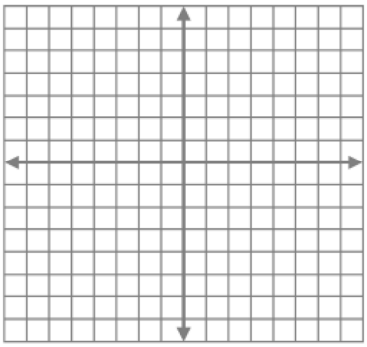
Graph each parabola. Hint: First find the vertex (use $x = \frac{-b}{2a}$) then choose appropriate values for your table.

Example 1. $y = -2x^2 - 12x - 16$

x	y
-3	2

$$x = \frac{-b}{2a} = \frac{-(-12)}{2(-2)} = \frac{12}{-4} = -3$$
$$x = -3$$
$$y = -2(-3)^2 - 12(-3) - 16$$
$$y = -2(9) - 12(-3) - 16$$
$$y = -18 + 36 - 16$$
$$y = 2$$
$$vertex: (-3, 2)$$

Now, to complete the rest of the table, choose x-values that are larger than -3 (like -2 and -1), and x-values that are smaller than -3 (like -4 and -5).



Shape_____

Axis of symmetry_____

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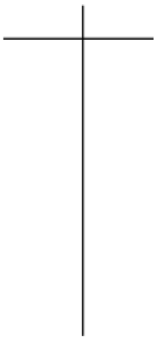
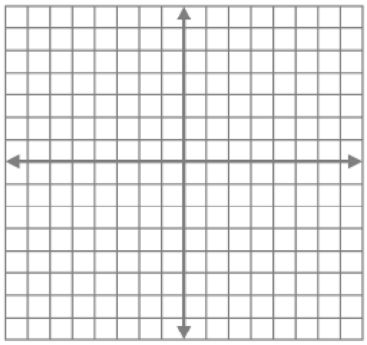
2. $y = x^2 + 2x - 1$

Shape_____

Find the vertex: (,)



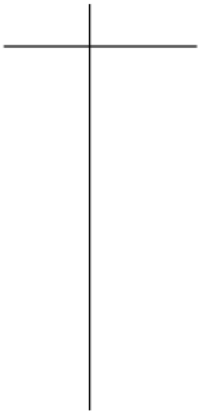


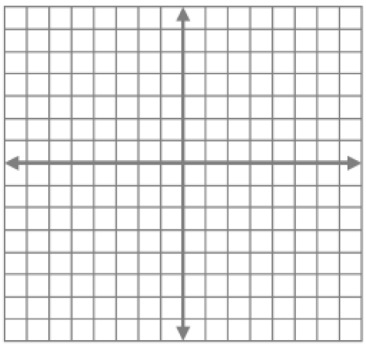
Axis of symmetry_____

3. $y = -x^2 + 6x - 5$

Shape_____

Vertex: (,)



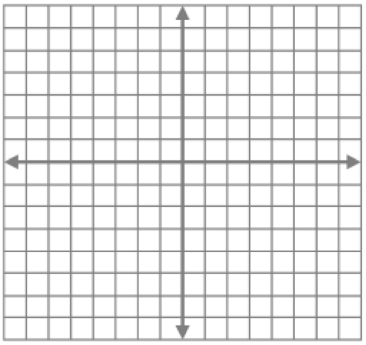


Axis of symmetry_____

4. $y = 3x^2 - 7$

Shape_____

Vertex: (,)



Axis of symmetry_____

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HW p 556: 7, 8, 10, 16-19, 20, 23

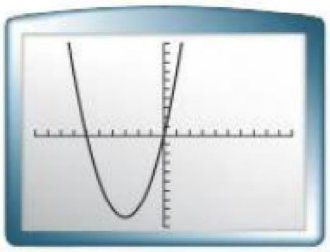
Find the equation of the axis of symmetry and the coordinates of the vertex of the graph of each function.

7. $y = 2x^2 + 3$ **8.** $y = -3x^2 + 12x + 1$ **10.** $y = x^2 - 8x - 7$

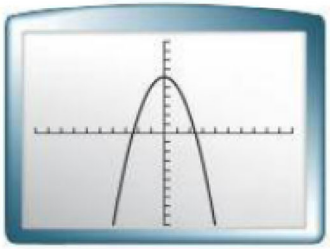
Match each function with its graph. Explain how you know which graph goes with each function!

16. $y = -x^2 - 6x$ **17.** $y = -x^2 + 6$ **18.** $y = x^2 - 6$ **19.** $y = x^2 + 6x$

A.



B.



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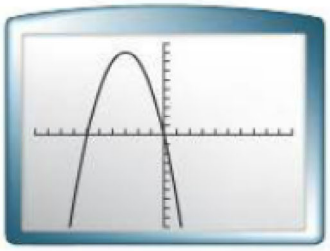
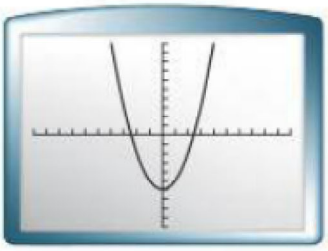


D.



Graph each function. Label the axis of symmetry and the vertex.

20. $f(x) = x^2 + 4x - 5$ **21.** $y = 3x^2 - 20x$ **23.** $f(x) = -x^2 + 4x + 3$

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Alg 1 Graphs