Alg 1 Week 6 Friday

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

$$\frac{b^4 b^0 \bullet c^{-2}}{(bc)^2}$$

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

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

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

$$6x^3 + 26x^2 - 20x$$

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

$$(6x^2 - 2x + 13) - (-7x^2 - 3x + 2)$$

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

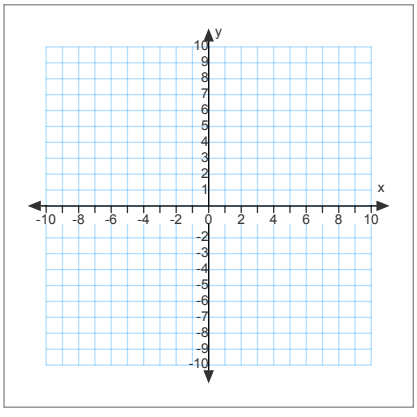
$$169x^2 - 49$$

6. Find the base of a triangle whose area is 60cm^2 and has a height of 8cm.

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

$y = 2x^2 - 6x + 1$

X	Y



Notes 9-3 Solving Quadratic Equations

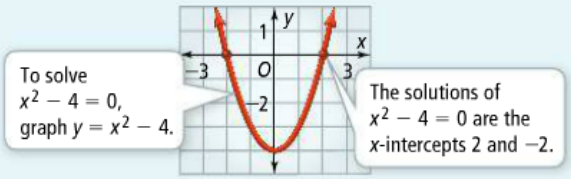
take note

Key Concept **Standard Form of a Quadratic Equation**

A **quadratic equation** is an equation that can be written in the form $ax^2 + bx + c = 0$, where $a \neq 0$. This form is called the **standard form of a quadratic equation.**

Essential Understanding Quadratic equations can be solved by a variety of methods, including graphing and finding square roots.

One way to solve a quadratic equation $ax^2 + bx + c = 0$ is to graph the related quadratic function $y = ax^2 + bx + c$. The solutions of the equation are the x-intercepts of the related function.



A quadratic equation can have two, one, or no real-number solutions. In a future course you will learn about solutions of quadratic equations that are not real numbers. In this course, *solutions* refers to real-number solutions.

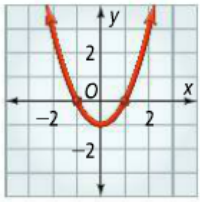
The solutions of a quadratic equation and the x-intercepts of the graph of the related function are often called **roots of the equation** or **zeros of the function.**

Problem 1 Solving by Graphing

What are the solutions of each equation? Use a graph of the related function.

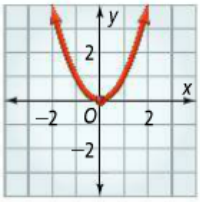
A $x^2 - 1 = 0$

Graph $y = x^2 - 1$.



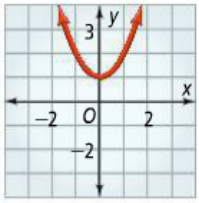
B $x^2 = 0$

Graph $y = x^2$.



C $x^2 + 1 = 0$

Graph $y = x^2 + 1$.



Problem 2 Solving Using Square Roots

What are the solutions of $3x^2 - 75 = 0$?

Got It? **2.** What are the solutions of each equation?

a. $m^2 - 36 = 0$ **b.** $3x^2 + 15 = 0$ **c.** $4d^2 + 16 = 16$

HW p 564: 8, 9, 15, and 21-31 odd

Solve each equation by graphing the related function. If the equation has no real-number solution, write *no solution*.

8. $x^2 - 9 = 0$ **9.** $x^2 + 7 = 0$ **15.** $x^2 + 5 = 5$

Solve each equation by finding square roots. If the equation has no real-number solution, write *no solution*.

20. $n^2 = 81$

21. $a^2 = 324$

22. $k^2 - 196 = 0$

23. $r^2 + 49 = 49$

24. $w^2 - 36 = -64$

25. $4g^2 = 25$

26. $64b^2 = 16$

27. $5q^2 - 20 = 0$

28. $144 - p^2 = 0$

29. $2r^2 - 32 = 0$

30. $3a^2 + 12 = 0$

31. $5z^2 - 45 = 0$