

Alg Review up to 8-6

Name _____

Factor or GCF [AA2]

① $3x^2 + 6x$

② $4xy + 6x^2y + 8xy^2$

Factor and write in the form [AA3] () ()

③ $x^2 + 9x + 18$

④ $x^2 - 9x + 18$

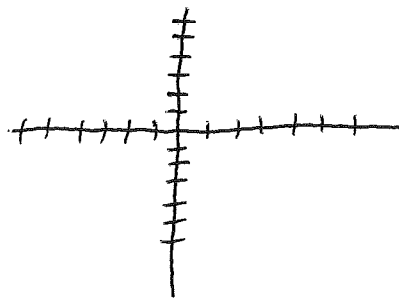
⑤ $x^2 - 3x - 18$

⑥ $x^2 + 3x - 18$

Solve for x: $4x + 9 = 5$

Solve for y: $2x + 4y = -8$

graph and state the intercepts $y = 2x - 6$



Alg 8-5 C

Name _____

Solve for x

① $3x - 1 = 11$

② $2x - 7 = 4x - 11$

③ $2(x + 4) = 10$

④ $3(x - 2) = 2(x - 7)$

⑤ $x^2 = 9$

⑥ $x^2 = -4$

⑦ $\sqrt{x} = 5$

⑧ $\sqrt{x} = -2$

⑨ $x^2 + 4 = 29$

⑩ $x^2 + 5 = 9$

⑪ $x^2 - 49 = 0$

⑫ $\sqrt{x} + 4 = 12$

⑬ $2x^2 - 4 = 4$

⑭ $3x^2 + 6 = 2x^2 + 22$

⑮ $\sqrt{x} - 3 = 6$

⑯ $\sqrt{x+4} + 1 = 7$

⑰ $2\sqrt{x} + 4 = 10$

⑱ $3\sqrt{2x+1} - 4 = -1$

Solving from the factored form:

This uses the property that if $ab = 0$ then either $a=0$ or $b=0$

There are two answers.

The first answer is found by setting the first term equal to 0 and solving

The second answer is found by setting the second term equal to 0 and solving

Example: $2x(x - 1) = 0$

$2x = 0$ then $x = 0$

$x - 1 = 0$ then $x = 1$

Solve each equation. Check your solutions.

39. $3b(9b - 27) = 0$

40. $2n(3n + 3) = 0$

41. $(8z + 4)(5z + 10) = 0$

42. $(7x + 3)(2x - 6) = 0$

43. $b^2 = -3b$

44. $a^2 = 4a$

- 13. SPIDERS** Jumping spiders can commonly be found in homes and barns throughout the United States. A jumping spider's jump can be modeled by the equation $h = 33.3t - 16t^2$, where t represents the time in seconds and h is the height in feet.
- When is the spider's height at 0 feet?
 - What is the spider's height after 1 second? after 2 seconds?

Alg

Sec 8-5

Name _____

FOIL

$$(2x+1)(x-3)$$

Factor

$$x^2 + 7x + 6$$

Factor by Grouping

$$\textcircled{1} x^2 - x + 3x - 3$$

$$\textcircled{2} x^2 + 2x + 4x + 8$$

$$\textcircled{3} 2x^2 + 2x + 3x + 3$$

$$\textcircled{4} np + 2n + 8p + 16$$

IXL: AA07

Alg

Sec 8-5

Name Key

FOIL

$$(2x+1)(x-3)$$

$$2x^2 - 6x + 1x - 3$$

$$2x^2 - 5x - 3$$

Factor

$$\begin{matrix} \uparrow & & \uparrow \\ x^2 & + & 7x + 6 \end{matrix}$$

$$\begin{matrix} 6 & 1 \\ \cancel{6} & \cancel{1} \\ 1 & 6 \end{matrix}$$

$$\begin{matrix} \downarrow \\ (x+6)(x+1) \end{matrix}$$

Factor By Grouping

$$\textcircled{1} \begin{matrix} x \cdot x & x \cdot 1 & 3 \cdot x & 3 \cdot 1 \\ x^2 & - x & + 3x & - 3 \end{matrix}$$

$$\textcircled{x}(x-1) \quad \textcircled{3}(x-1)$$

$$(x-1)(x+3)$$

$$\textcircled{2} \begin{matrix} x \cdot x & x \cdot 2 \\ x^2 & + 2x & + 4x & + 8 \end{matrix}$$

$$x(x+2) \quad 4(x+2)$$

$$(x+2)(x+4)$$

$$\textcircled{3} \begin{matrix} 2x \cdot x & 2x \cdot 1 \\ 2x^2 & + 2x & + 3x & + 3 \end{matrix}$$

$$\textcircled{2x}(x+1) \quad \textcircled{3}(x+1)$$

$$(x+1)(2x+3)$$

$$\textcircled{4} \begin{matrix} np & + 2n & + 8p & + 16 \\ n(p+2) & & 8(p+2) & \end{matrix}$$

$$(p+2)(n+8)$$

IXL: AA6