

Name: _____

Date: _____

M8H HW CH2 Lesson 10: Factoring and Solving Trinomials

1. Given each pair of binomials, expand and simplify:

a. $(x-3)(x+4)$

b. $(x+11)(x-9)$

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

e. $(7x-3)(4x+2)$

f. $(10x-3)(4x-2)$

g. $(8x-3)(3x-8)$

2. Given each pair of binomials, solve for "x":

a. $(x+9)(x+21)=0$

b. $4(x-3)(x+3)=0$

c. $(x+81)(x-29)=0$

e. $(2x-5)\left(x-\frac{1}{2}\right)=0$

f. $x(3x+1)=0$

g. $2(5-2x)\left(\frac{1}{3}-x\right)=0$

3. Given each expression, find the missing value in the box:

a. $x^2 - 11x - 12 = (x - \boxed{?})(x + 1)$

b. $x^2 - 29x + 120 = (x - \boxed{?})(x - 5)$

c. $5x^2 + 6x + 1 = (5x + \boxed{?})(x + 1)$

d. $2x^2 - 23x + 11 = (2x - \boxed{?})(x - 11)$

4. Factor each of the following expressions. Show all your steps and work:

a. $x^2 + 7x + 6$

b. $x^2 + 25x + 24$

c. $x^2 + 10x + 21$

d. $x^2 - 10x + 24$

e. $x^2 + 3x - 40$

f. $4x^2 + 9x + 2$

g. $2x^2 + 5x + 2$

h. $2x^2 - 11x + 15$

i. $21x^2 + 17x - 30$

j. $2x^2 - 7x + 5$

k. $5x^2 - 13x - 6$

l. $7x^2 + 9x - 10$

m. $21 + 26x - 15x^2$

n. $2x^2 - 9xy - 45y^2$

o. $5x^4 - 9x^2 - 2$

p. $6 - 7x^2 + 2x^4$

5. Factor each of the following expressions and solve for "x". Show all your steps and work:

a. $x^2 + 8x + 12 = 0$

b. $x^2 + 17x + 72 = 0$

c. $x^2 + 2x - 15 = 0$

d. $x^2 - 7x - 170 = 0$

e. $x^2 - 64 = 0$

f. $100 - x^2 = 0$

g. $(2x - 1)^2 - 16 = 0$

h. $2x^2 - 11x + 15 = 0$

i) $13x^2 + 8x - 5 = 0$

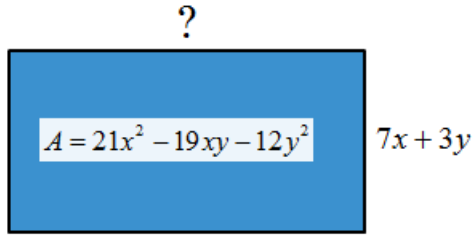
j) $2x^2 - 25x - 13 = 0$

k) $2x^2 - 7x + 6 = 0$

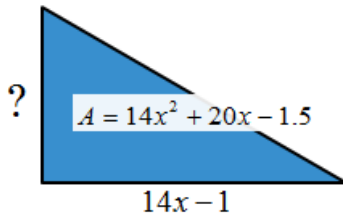
l) $10x^2 + 49x + 49 = 0$

m) $(x + 2)^2 + 8(x + 2) - 20 = 0$	n) $(x - 3)^2 + 10(x - 3) + 9 = 0$	o) $2(x + 1)^2 - (x + 1) - 6 = 0$
p) $4(x + 2)^2 = 6 - 5(x + 2)$	o) $x^4 - 256 = 0$	q) $x^4 = 10 - 9x^2$
r) $r^4 - 17r^2 + 16 = 0$	s) $x^4 - 29x^2 + 100 = 0$	t) $4(x^2 - 6x + 9)^2 - 12(x^2 - 6x + 9) = -9$

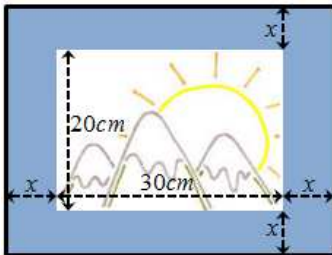
6. The area of a rectangle is given by the expression: $21x^2 - 19xy - 12y^2$ and the width is $7x + 3y$. Find the length of the rectangle:



7. The area of a triangle is given by the expression: $14x^2 + 20x - 1.5$ and the width is $14x - 1$. Find the length of the rectangle:



8. A photograph that is 20cm by 30cm is framed with a uniform mat board as shown below. If the area of the photo with the mat is 999cm^2 , then what is the width of the mat?



9. Find the length of the base for the following triangle:

