

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Pre-Calculus 11 Ch3/4 HW Lesson2 Solving Quadratic Equations by Factoring**

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

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

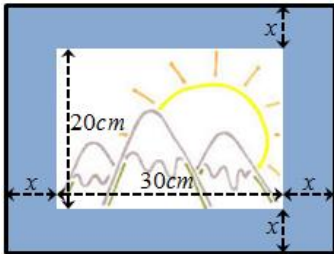
j)  $2x^2 - 25x - 13 = 0$

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) $4(x^2 - 6x + 9)^2 - 12(x^2 - 6x + 9) = -9$

3. 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  $999\text{cm}^2$ , then what is the width of the mat?



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

