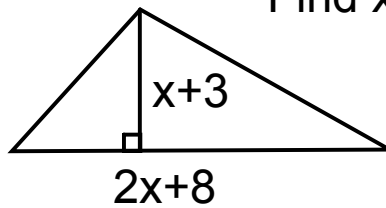


# Bellwork:

Find  $x$ , Area = 42



$$\frac{(2x+8)(x+3)}{2} = 42$$

$$\frac{2x^2 + 6x + 8x + 24}{2} = 42$$

$$2x^2 + 14x + 24 = 84$$

## Chapter 4.4: Solve $ax^2+bx+c=0$ by Factoring

factor using rainbow method!!!!

ex. Factor  $5x^2 - 17x + 6$

$\frac{1}{5}$        $\frac{1}{2} \cdot 3$        $\frac{3}{2} \cdot 0$   
 $\frac{3}{2} \cdot 0$

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

ex. Factor  $3x^2 + 20x - 7$

$\frac{1}{3}$        $\frac{1}{7}$        $\frac{21}{-1}$

$$(3x - 1)(x + 7)$$

ex. Factor Special Cases.

a.  $9x^2-64$

b.  $4y^2+20y+25$

c.  $36w^2-12w+1$

ex. Factor:

a.  $5x^2-45$

$$5(x^2-9)$$

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

b.  $6q^2-14q+8$

c.  $-5z^2+20z$

d.  $12p^2-21p+3$

$$3(4p^2-7p+1)$$

ex. Solve

a.  $3x^2 + 10x - 8 = 0$

$\frac{1}{3}$        $\frac{1}{8}$        $\frac{24}{-2 \mid 12}$

$\frac{2}{4}$

$(3x - 2)(x + 4) = 0$        $x =$

$3x - 2 = 0$        $x + 4 = 0$

$x = \frac{2}{3}$        $x = -4$

$AB = 0$   
 $A = 0, B = 0$

b.  $5p^2 - 16p + 15 = 4p - 5$

$-4p + 5 - 4p + 5$

$5p^2 - 20p + 20 = 0$

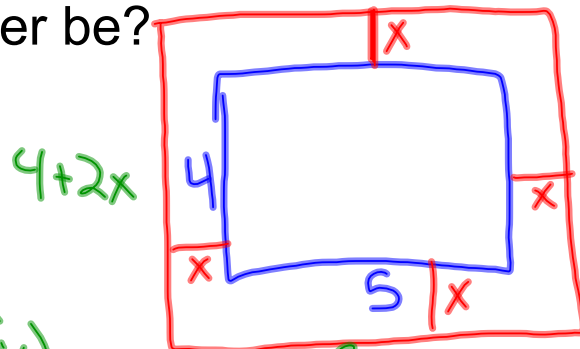
$5(p^2 - 4p + 4) = 0$

$5(p - 2)(p - 2) = 0$

~~$5 = 0$~~        $p - 2 = 0$        $p - 2 = 0$

$p = 2$

ex. You have made a rectangular quilt that is 5ft by 4ft. You want to use the remaining 10 square feet of fabric to add a border of uniform width to the quilt. What should the width of the border be?



$(4 + 2x)(5 + 2x) = 30$

$20 + 8x + 10x + 4x^2 = 30$

ex. A monthly teen magazine has 28,000 subscribers when it charges \$10 per annual subscription. For each \$1 increase in price, the magazine loses about 2000 subscribers. How much should the magazine charge to maximize annual revenue? what is the maximum annual revenue?

Homework: Chapter 4.4  
pg.263 #'s 4-48e,56,58,66