

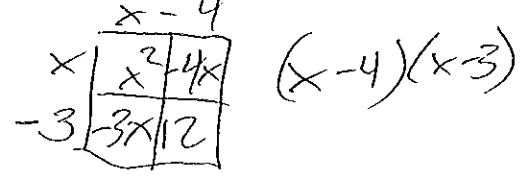
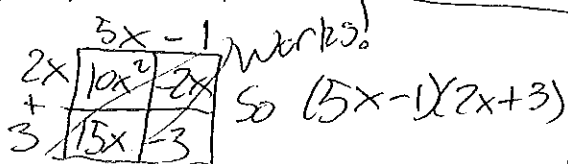
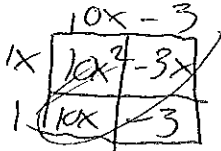
Word Bank: Factors, intercepts, rectangle, dimensions, product, sum, zero product property (ZPP), graph

1. What does it mean to factor an expression, for example  $x^2 + 5x - 14$ ? Be specific.

Factoring means writing a rectangle and finding the dimensions

2. Use an area model to factor  $10x^2 + 13x - 3$ . *Alternate!*  $x^2 - 7x + 12$

Can't make it work!



3. What is the Zero Product Property? How can you use the ZPP to solve equations like  $10x^2 + 13x - 3 = 0$ ?

ZPP says: If a multiplication problem equals zero, one of the factors must be zero.

So  $10x^2 + 13x - 3 = (5x - 1)(2x + 3) = 0$ , so

4. Solve each equation below. Show your work in your math notebook.

a.  $(x - 3)(x + 7) = 0$

$x = 3, x = -7$

b.  $(2x - 5)(x + 3) = 0$

$x = 5/2, x = -3$

c.  $x^2 + 5x - 6 = 0$   $x = 1/3$  OR  $x = -3/2$

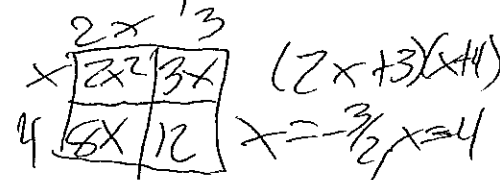
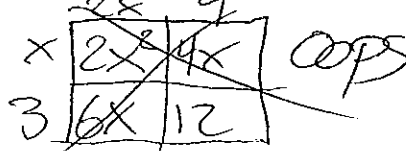
$(x + 6)(x - 1)$

$x = -6, x = 1$

d.  $x^2 + 10 = 7x$

$x^2 - 7x + 10 = 0$   
 $(x - 5)(x - 2) = 0$   
 $x = 5, x = 2$

e.  $2x^2 + 11x + 12 = 0$



5. Describe which rectangles have the biggest area (what kinds of fields were the biggest?).

Squares are the biggest rectangles!

Squarea is the biggest area.

Think about the top of the parabola you saw.

