

Name \_\_\_\_\_

Date \_\_\_\_\_ Pd. \_\_\_\_\_

### Notes: Factoring Trinomials Continued

*Example 1*

Solve  $x^2 + 6x = 7$ . Check your solutions.

*Example 2*

**ROCKET LAUNCH** A rocket is fired with an initial velocity of 2288 feet per second. How many seconds will it take for the rocket to hit the ground?

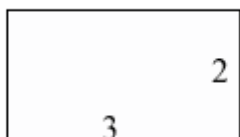
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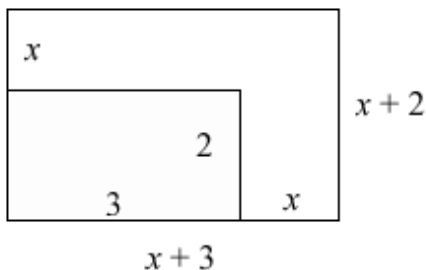
## Exit Card: Factoring Trinomials Continued

### ECR

A farmer plants corn on a rectangular field that is 2 km by 3 km.



The farmer wishes to increase the area used for planting by increasing the length and width of the field by the same amount ( $x$  km) as shown in the figure below:



- Write a simplified polynomial that represents the area of the new field.
- The farmer wants the new area to be  $42 \text{ km}^2$ . Write an equation that could be used to determine how much should be added to the length and width of the field.
- How much should be added to the length and width of the field? Use mathematics to explain how you determined your answer. Use words, symbols, or both in your explanation.

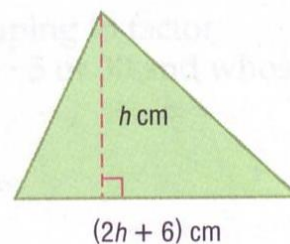
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**Homework: Pages 493 – 494 (37 – 45 odd, 54, 56, 57, 61, 62, 66 – 69)**

<p>37. Solve <math>x^2 + 16x + 28 = 0</math></p>	<p>39. Solve <math>y^2 + 4y - 12 = 0</math></p>
<p>41. Solve <math>a^2 - 3a - 28 = 0</math></p>	<p>43. Solve <math>m^2 - 19m + 48 = 0</math></p>
<p>45. Solve <math>z^2 = 18 - 7z</math></p>	
<p>54. When the Justices of the Supreme Court assemble to go on the Bench each day, each Justice shakes hands with each of the other Justices for a total of 36 handshakes. The total number of handshakes <math>h</math> possible for <math>n</math> people is given by <math>h = \frac{n^2 - n}{2}</math>. Write and solve an equation to determine the number of Justices on the Supreme Court.</p>	

56. The triangle has an area of 40 square centimeters. Find the height  $h$  of the triangle.



57. Find  $k$  so that  $x^2 + kx - 19$  can be factored.

The length of a Rugby League field is 52 meters longer than its width  $w$ .

61. Write an expression for the area of the rectangular field.
62. The area of a Rugby League field is 8160 square meters. Find the dimensions of the field.

Use a graphing calculator to determine if the factorization is correct. If *no*, state the correct factorization.

66.  $x^2 - 14x + 48 = (x + 6)(x + 8)$

67.  $x^2 - 16x - 105 = (x + 5)(x - 21)$

68.  $x^2 + 25x + 66 = (x + 33)(x + 2)$

69.  $x^2 + 11x - 210 = (x + 10)(x - 21)$