

# Debug It: Quadratic Equations

## Purpose

Debug a common mistake when solving quadratic equations by factoring.

## Process

1. Individually, get started examining the error in the work.
2. With a partner, discuss your thinking and answer a few questions about the work.

## Preparation

Consider using the *Solve a Quadratic Equation by Factoring* tool to help solve this problem.

## Activity Instructions

Examine the error in the work below and answer a few questions about it.

Christian was working on this problem and made a mistake while solving a quadratic equation by factoring.

The mistake is circled:

Name: Christian

**Solve for x by factoring:**  $x^2 - 7x + 12 = 2$

Show your work below.

$$x^2 - 7x + 12 = 2$$

$$(x-3)(x-4) = 2$$

Answer:  $x=3; x=4$

	12	
-1	-12	
-2	-6	
-3	-4	$-3 + -4 = -7$

1. What could Christian have been thinking that led to this mistake?
2. What would you say to help him fix the mistake?