

## Objective 3 - Solving Quadratics by Factoring

*Solving quadratic equations using the zero-factor principle.*

[Link to section in online textbook.](#)

First, watch [this video](#) to learn how to solve quadratic equations through factoring. If you are having trouble factoring, look back at Module 2. Feel free to pause the video and fill out the notes as you go.

Now practice solving quadratic equations by factoring.

**Question 1** Solve the quadratic equation below.

$$21x^2 + 63x + 42 = 0$$

Smaller solution:  $x =$

Larger solution:  $x =$

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**Question 2** Solve the quadratic equation below.

$$4x^2 + 18x + 18 = 0$$

Smaller solution:  $x =$

Larger solution:  $x =$

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**Question 3** Solve the quadratic equation below.

$$9x^2 + 3x - 30 = 0$$

Smaller solution:  $x =$

Larger solution:  $x =$

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Learning outcomes: Understand and solve quadratic equations.  
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**Question 4** Solve the quadratic equation below.

$$60x^2 + 32x + 4 = 0$$

Smaller solution:  $x =$

Larger solution:  $x =$

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**Question 5** Solve the quadratic equation below.

$$225x^2 + 150x + 24 = 0$$

Smaller solution:  $x =$

Larger solution:  $x =$

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**Question 6** Solve the quadratic equation below.

$$60x^2 - 30x - 30 = 0$$

Smaller solution:  $x =$

Larger solution:  $x =$

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