Worksheet: Solving Quadratic Equations by Factorisation

When you can factorise a quadratic expression you can use the result to solve the associated quadratic equation and, in turn, sketch the quadratic function.

1. Solve the following quadratic equations by factorisation;
   (a) \( x^2 + 2x + 1 = 0 \)
   (b) \( x^2 + 8x + 7 = 0 \)
   (c) \( x^2 + 8x + 12 = 0 \)
   (d) \( x^2 + 7x + 12 = 0 \)
   (e) \( x^2 + 13x + 12 = 0 \)
   (f) \( x^2 - 7x + 12 = 0 \)
   (g) \( x^2 - 8x + 12 = 0 \)
   (h) \( x^2 - 13x + 12 = 0 \)

2. Solve the following equations by factorisation;
   (a) \( x^2 - 12 = x \)
   (b) \( x + 1 = 12 / x \)
   (c) \( x^2 = 3x + 10 \)
   (d) \( 10 - 3x - x^2 = 0 \)

3. Solve the following equations by factorisation;
   (a) \( 6x^2 - 3x = 0 \)
   (b) \( x^2 = 100 \)
   (c) \( 1 - x^2 = 0 \)
   (d) \( -4x^2 = -36 \)
   (e) \( 7x^2 = 2 \)
   (f) \( \frac{x^2}{4} = 1 \)

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