# Assignment 1

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10 November 2022

Q) Solve the following quadratic equations.

1) $x^2 + 2x - 15 = 0$

Solution:

$x^2 + 5x - 3x - 15 = 0$
$x(x + 5) - 3(x + 5) = 0$
$(x + 5)(x - 3) = 0$
$(x + 5) = 0$ or $(x - 3) = 0$
**x = -5** or **x = 3**

2) $3x^2 - 5x + 2 = 0$

Solution:

$3x^2 - 3x - 2x + 2 = 0$
$3x(x - 1) - 2(x - 1) = 0$
$(x - 1)(3x - 2) = 0$
$(x - 1) = 0$ or $(3x - 2) = 0$
**x = 1** or **x = 2/3**

3) $x^2 + 5x + 6 = 0$

Solution:

$x^2 + 2x + 3x + 6 = 0$
$x(x + 2) + 3(x + 2) = 0$
$(x + 2)(x + 3) = 0$
$(x + 2) = 0$ or $(x + 3) = 0$
**x = -2** or **x = -3**

4) $2x^2 - 4x - 30 = 0$

Solution:

$x^2 - 2x - 15 = 0$

$x^2 - 5x + 3x - 15 = 0$

$x(x - 5) + 3(x - 5) = 0$

$(x - 5)(x + 3) = 0$

$(x - 5) = 0$ or $(x + 3) = 0$

**x = 5** or **x = -3**

5) $-2x^2 + 6x = 0$

Solution:

$x^2 + 3x = 0$

$x(x + 3) = 0$

$x(x + 3) = 0$

$x = 0$ or $(x + 3) = 0$

**x = 0** or **x = -3**