

MAT 012 Lecture Notes: Ch 6.6 equations

Chapter 6.6

Example:

$$6x^2 - 19x + 10 = 0$$

Factored version:

$$(3x - 2)(2x - 5) = 0$$

Answers:

$$x = \frac{2}{3} \text{ or } x = \frac{5}{2}$$

Example:

$$9x^3 - 45x = -12x^2$$

Factored version:

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

Answers:

$$x = 0 \text{ or } x = \frac{5}{3} \text{ or } x = -3$$

Example:

$$4x^4 - 16x^2 + 12x^3 = 0$$

Factored version:

$$4x^2(x + 4)(x - 1) = 0$$

Answers:

$$x = 0 \text{ or } x = -4 \text{ or } x = 1$$

Example:

$$32x^2 - 200 = 0$$

Factored version:

$$8(2x + 5)(2x - 5) = 0$$

Answers:

$$x = -\frac{5}{2} \text{ or } x = \frac{5}{2}$$

Example:

$$x^2 + 81 = 0$$

Factored version:

does not factor
Left side is prime

Answers:

no solutions (in the real numbers)

Example:

$$(x + 1)(x - 2) = 28$$

Factored version:

$$(x + 5)(x - 6) = 0$$

Answers:

$$x = -5 \text{ or } x = 6$$

Example:

$$10x^3 - 60x + 25x^2 = 0$$

Factored version:

Hint: *note the order of the*
terms in the given left side

Answers:

$$x = 0 \text{ or } x = -4 \text{ or } x = \frac{3}{2}$$

$$5x(x + 4)(2x - 3) = 0$$