Algebreic Manipulation

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Contents

1 Cross Multiply

Say we have:

$$\frac{1}{x} = \frac{\ln 4}{3}.$$

We can cross multiply to get:

$$3 = x \ln 4.$$

And then solve for x to get:

$$x = \frac{3}{\ln 4}.$$

2 Negative Expontents

2.1 Negative 1 Power

$$100^{-1} = \frac{1}{100}.$$

2.2 Negative 2 Power

$$100^{-2} = \frac{1}{100} \cdot \frac{1}{100}.$$

2.3 Negative n Power

$$100^{-n} = \frac{1}{100} \cdot \frac{1}{100} \cdot \ ... \ \cdot \frac{1}{100}.$$

2.4 Difference/sum of Squares

Difference of Squares

$$(a^2 - b^2) = (a - b)(a + b).$$

Sum of squares

$$(a^2 + b^2) = (a + b)^2.$$

2.5 Difference/Sum of cubes

Difference of cubes:

$$(a^3 - b^3) = (a - b)(a^2 + ab + b^2).$$

Sum of cubes:

$$(a^3 + b^3) = (a + b)(a^2 - ab + b^2).$$