

Expressions List

Linear expressions:

$$\begin{aligned}14x - 35 &= 7(2x - 5) \\2.5x + 4 &= 0.5(5x + 8) \\27 - 6x &= 3(9 - 2x) \\44x - 33 &= 11(4x - 3) \\9x + 10.5 &= 1.5(6x + 7) \\84 - 36x &= 12(7 - 3x)\end{aligned}$$

Quadratic expressions:

$$\begin{aligned}x^2 + 4x - 21 &= (x - 3)(x + 7) \\14x^2 + 23x - 30 &= (2x + 5)(7x - 6) \\18x^2 + 57x - 108 &= 3(3x - 4)(2x + 9) \\64x^2 - 49 &= (8x + 7)(8x - 7) \\36x^2 - 121 &= (6x + 11)(6x - 11) \\4 - 169x^2 &= (2 + 13x)(2 - 13x)\end{aligned}$$

Polynomial expressions:

$$\begin{aligned}x^3 - 2x^2 + x - 2 &= (x^2 + 1)(x - 2) \\12x^3 + 21x^2 - 20x - 35 &= (3x^2 - 5)(4x + 7) \\4x^3 + 16x^2 - 9x - 36 &= (2x + 3)(2x - 3)(x + 4) \\x^3 - 64 &= (x - 4)(x^2 + 4x + 16) \\x^3 + 125 &= (x + 5)(x^2 - 5x + 25) \\9x^4 - 144 &= 9(x^2 + 4)(x + 2)(x - 2)\end{aligned}$$

Rational expressions:

$$\begin{array}{ll}\frac{x^2 + x - 6}{x^2 + 7x + 12} = \frac{x - 2}{x + 4} & \frac{x^4 - 25}{3x + 5} = \frac{(x^2 + 5)(x^2 - 5)}{3x + 5} \\[10pt]\frac{15x^2 + 7x - 2}{12x^2 + 17x + 6} = \frac{5x - 1}{4x + 3} & \frac{2x^2 - 11x - 21}{2x^2 - 8x - 42} = \frac{2x + 3}{2(x + 3)} \\[10pt]\frac{6x^2 - 13x - 5}{8x^2 - 34x + 35} = \frac{3x + 1}{4x - 7} & \frac{x^3 - 4x^2 - x + 4}{x^2 + 3x + 2} = \frac{(x - 1)(x - 4)}{x + 2}\end{array}$$

A.SSE.2: Expressions List

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