**Simplifying Algebraic Fractions**

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| --- | --- | --- |
| **Literacy**Term, expression, numerator, denominator, factor, factorise, simplify, cancel, index, quadratic | **Research**What is a polynomial? Where does the word come from? Find out what monomials, binomials and trinomials are and give examples. | **Memory**You can only cancel **common factors** in the numerator and denominator. |
| **Skills**Simplify the following fractions

|  |  |  |
| --- | --- | --- |
| 1. $\frac{8a^{3}b}{2a^{2}b^{2}}$
 |  | 1. $\frac{4x^{2}+12x}{20x}$
 |
| 1. $\frac{6x^{2}-8x}{3x}$
 |  | 1. $\frac{12x-2x^{2}}{8x+14}$
 |
| 1. $ \frac{x-1}{3x-3}$
 |  | 1. $\frac{2x-16}{x^{2}-4x-32}$
 |
| 1. $\frac{ax+ab+ay}{a^{2}b-2ay}$
 |  | 1. $\frac{x^{2}-5x}{x^{2}+4x}$
 |
| 1. $\frac{x^{2}-2x-3}{2x-6}$
 |  | 1. $\frac{x-2}{x^{2}-4}$
 |

 | **Stretch**1. Simplify
2. $ \frac{2x^{2}-2x-12}{2x^{2}-18}$
3. $ \frac{6x^{2}-13x-5}{9x^{2}-1}$
4. Solve

$$\frac{20x^{4}y^{2}z^{3}}{7xy^{5}}×\frac{14y^{3}}{40x^{2}z^{3}}=5$$ |

**Answers**

Research: <http://www.mathsisfun.com/algebra/polynomials.html>

Skills:

|  |  |  |
| --- | --- | --- |
| 1. $\frac{4a}{b}$
 |  | 1. $\frac{x+3}{5}$
 |
| 1. $\frac{6x-8}{3}$
 |  | 1. $\frac{6x-x^{2}}{4x+7}$
 |
| 1. $ \frac{1}{3}$
 |  | 1. $\frac{2}{x+4}$
 |
| 1. $\frac{x+b+y}{ab-2y}$
 |  | 1. $\frac{x-5}{x+4}$
 |
| 1. $\frac{x+1}{2}$
 |  | 1. $\frac{1}{x+2}$
 |

Stretch: $ 1a) \frac{2x^{2}-2x-12}{2x^{2}-18}=$ $ \frac{x+2}{x+3} b) \frac{6x^{2}-13x-5}{9x^{2}-1}= \frac{2x-5}{3x-1}$

$$2. x=5$$