

Questions: Introduction to algebraic fractions

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Summary

A selection of questions for the study guide on the introduction to algebraic fractions.

Before attempting these questions, it is highly recommended that you read [Guide: Introduction to algebraic fractions](#).

Q1

For each algebraic fraction, state the restriction(s) on the denominator (the value(s) of x for which the fraction is undefined).

- 1.1. $\frac{3}{x}$
- 1.2. $\frac{5}{x - 4}$
- 1.3. $-\frac{2}{2x + 1}$
- 1.4. $\frac{x + 3}{x + 5}$
- 1.5. $\frac{4x}{x(3x - 2)}$
- 1.6. $\frac{x - 1}{(x + 2)(x - 3)}$
- 1.7. $\frac{5x + 1}{x^2 - 16}$
- 1.8. $\frac{2}{(x - 1)^2}$
- 1.9. $\frac{x}{x^2 + 4x}$
- 1.10. $\frac{7}{(x + 3)(2x - 5)}$
- 1.11. $-\frac{x - 4}{x^2 - 5x + 6}$
- 1.12. $\frac{2x + 3}{x^2 + 2x - 8}$

Q2

Find the missing value ? that makes the two algebraic fractions equivalent.

$$2.1. \frac{x}{3} = \frac{?}{9}$$

$$2.2. \frac{2}{x} = \frac{10}{?}$$

$$2.3. \frac{x+1}{4} = \frac{?}{12}$$

$$2.4. \frac{3x}{5} = \frac{?}{20}$$

$$2.5. \frac{5}{x+2} = \frac{?}{2(x+2)}$$

$$2.6. \frac{x-3}{x} = \frac{?}{2x}$$

$$2.7. \frac{4}{x-1} = \frac{12}{?}$$

$$2.8. \frac{x}{x-4} = \frac{?}{3(x-4)}$$

$$2.9. \frac{x+5}{2x} = \frac{3(x+5)}{?}$$

$$2.10. \frac{2x-1}{x+3} = \frac{?}{3(x+3)}$$

$$2.11. \frac{3}{x} = \frac{3(x+1)}{?}$$

$$2.12. \frac{x}{x-2} = \frac{x(x+3)}{?}$$

$$2.13. \frac{4x}{x+1} = \frac{?}{(x+1)^2}$$

$$2.14. \frac{2x+1}{x-5} = \frac{6x+3}{?}$$

$$2.15. \frac{5-x}{x+2} = \frac{?}{-2(x+2)}$$

Q3

Simplify each algebraic fraction.

$$3.1. \frac{8x}{12x}$$

$$3.2. \frac{5x^2}{15x}$$

- 3.3. $\frac{x^2 + 4x}{x}$
- 3.4. $\frac{3x^2 - 9x}{6x}$
- 3.5. $-\frac{4x}{10x}$
- 3.6. $\frac{x^2 - 16}{x - 4}$
- 3.7. $\frac{x^2 - 1}{x + 1}$
- 3.8. $\frac{x^2 + 5x + 6}{x + 2}$
- 3.9. $\frac{x^2 + 3x - 10}{x - 2}$
- 3.10. $\frac{2x^2 + 7x + 3}{x + 3}$
- 3.11. $\frac{x^2 - 10x + 25}{x - 5}$
- 3.12. $\frac{4 - x}{x - 4}$
- 3.13. $\frac{2x^2 - 8}{x^2 - 4}$
- 3.14. $\frac{x^3 - 4x}{x^2 - 4}$
- 3.15. $\frac{x^2 - 3x - 10}{x^2 - 25}$
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After attempting the questions above, please click [this link](#) to find the answers.

Version history and licensing

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