

# Answers: Arithmetic on algebraic fractions

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## Summary

Answers to questions relating to the guide on arithmetic on algebraic fractions.

*These are the answers to [Questions: Arithmetic on algebraic fractions](#).*

**Please attempt the questions before reading these answers!**

## Q1

1.1.  $\frac{7}{x}$

1.2.  $\frac{2x - 1}{3}$

1.3.  $\frac{3}{y}$

1.4.  $\frac{1}{x}$

1.5.  $-1$

1.6.  $\frac{3}{2x}$

1.7.  $\frac{7}{15y}$

1.8.  $\frac{x}{2}$

1.9.  $\frac{5x + 2}{x(x + 1)}$

1.10.  $\frac{6}{x - 1}$

1.11.  $\frac{6}{x - 3}$

1.12.  $\frac{x - 6}{(x + 2)(x - 2)}$

1.13.  $\frac{3x + 1}{x^2}$

$$1.14. \quad \frac{x(2x - 3)}{(x - 3)(x + 3)}$$

$$1.15. \quad \frac{x^2 - x - 5}{(x + 2)^2}$$

## Q2

$$2.1. \quad \frac{2x}{15}$$

$$2.2. \quad 6$$

$$2.3. \quad \frac{x(x + 1)}{6}$$

$$2.4. \quad \frac{3}{4}$$

$$2.5. \quad \frac{x - 3}{4}$$

$$2.6. \quad -\frac{6}{x}$$

$$2.7. \quad \frac{x}{2}$$

$$2.8. \quad \frac{x + 2}{x + 3}$$

$$2.9. \quad \frac{3}{4}$$

$$2.10. \quad \frac{x + 3}{x + 1}$$

$$2.11. \quad -\frac{3}{2}$$

$$2.12. \quad \frac{2x}{3(x - 2)}$$

## Q3

$$3.1. \quad \frac{5}{2}$$

$$3.2. \quad 6$$

$$3.3. \quad \frac{1}{2}$$

$$3.4. \quad \frac{3x}{2}$$

$$3.5. \quad \frac{4(x - 2)}{3x}$$

$$3.6. \quad \frac{x - 1}{x}$$

- 3.7. -6
- 3.8. 2
- 3.9.  $\frac{1}{2}$
- 3.10.  $\frac{x+3}{x-3}$
- 3.11. 2
- 3.12.  $\frac{3(x+2)}{2x}$

## Q4

- 4.1.  $\frac{x+y}{y}$
- 4.2.  $-\frac{6x}{x+2}$
- 4.3.  $\frac{1}{2}$
- 4.4.  $\frac{x+2}{3x}$
- 4.5.  $-\frac{2x(x+1)}{x-1}$
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## Version history and licensing

v1.0: initial version created 12/25 by Donald Campbell as part of a University of St Andrews VIP project.

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