

## Algebra 1

chapter

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## Section 1.4 Simplifying algebraic fractions

PROJECT MATHS

## Text &amp; Tests 6

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## Example 1

Simplify (i)  $\frac{5ax}{15a + 10a^2}$  (ii)  $\frac{t^2 + 3t - 4}{t^2 - 16}$  (iii)  $\frac{\frac{5}{8} + y}{\frac{1}{8}}$

(i) Are there common factors in numerator and denominator?

$$\frac{5ax}{15a + 10a^2} \quad \text{HCF}$$

$$= \frac{1\cancel{5}ax}{1\cancel{5}a(3+2a)}$$

$$= \frac{x}{3+2a}$$


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(ii)

$$\frac{t^2 + 3t - 4}{t^2 - 16} \quad \text{HCF DOTS}$$

$$= \frac{1(\cancel{t+4})(t-1)}{1(\cancel{t+4})(t-4)}$$

$$= \frac{(t-1)}{(t-4)}$$

### Example 1

Simplify (i)  $\frac{5ax}{15a + 10a^2}$

(ii)  $\frac{t^2 + 3t - 4}{t^2 - 16}$

(iii)  $\frac{\frac{5}{8} + y}{\frac{1}{8}}$

(iii) TRICK  
 x  $\frac{8}{8}$

$$\frac{\frac{5}{8} + y}{\frac{1}{8}}$$

$$= \frac{8 \left( \frac{5}{8} + y \right)}{8 \left( \frac{1}{8} \right)}$$

$$= \frac{5 + 8y}{1}$$

$$= 5 + 8y$$