# Algebraic fractions: single term denominators

ANSWERS

**1**

Write $\frac{x}{3} + \frac{x}{4}$ as a single fraction.

$\frac{x \times 4}{3 \times 4} + \frac{x \times 3}{4 \times 3}$

$= \frac{4x + 3x}{12}$

Answer $\frac{7x}{12}$

**2**

Write $\frac{2x}{5} + \frac{x}{3}$ as a single fraction.

$\frac{2x \times 3}{5 \times 3} + \frac{x \times 5}{3 \times 5}$

$= \frac{6x + 5x}{15}$

Answer $\frac{11x}{15}$

**3**

Write $\frac{3x}{4} - \frac{x}{5}$ as a single fraction.

$\frac{3x \times 5}{4 \times 5} - \frac{x \times 4}{5 \times 4}$

$= \frac{15x - 4x}{20}$

Answer $\frac{11x}{20}$

**4**

Write $\frac{x}{6} + \frac{2x}{5}$ as a single fraction.

$\frac{x \times 5}{6 \times 5} + \frac{2x \times 6}{5 \times 6}$

$= \frac{5x + 12x}{30}$

Answer $\frac{17x}{30}$

**5**

Write $\frac{2}{x} + \frac{1}{5}$ as a single fraction.

$\frac{2 \times 5}{x \times 5} + \frac{1 \times x}{5 \times x}$

$= \frac{10 + x}{5x}$

Answer $\frac{10 + x}{5x}$

**6**

Write $\frac{3}{x} + \frac{2}{5}$ as a single fraction.

$\frac{3 \times 5}{x \times 5} + \frac{2 \times x}{5 \times x}$

$= \frac{15 + 2x}{5x}$

Answer $\frac{15 + 2x}{5x}$

**7**

Write $\frac{5}{x} - \frac{1}{3}$ as a single fraction.

$\frac{5 \times 3}{x \times 3} - \frac{1 \times x}{3 \times x}$

$= \frac{15 - x}{3x}$

Answer $\frac{15 - x}{3x}$

**8**

Ben writes $\frac{1}{x} + \frac{1}{3} = \frac{2}{x+3}$.

Explain the mistake. Write the right single fraction.

he added numerators and denominators

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

Answer $\frac{3 + x}{3x}$

# Algebraic fractions: single term denominators *further practice*

ANSWERS

**9**

Write $\frac{x}{2} + \frac{x}{7}$ as a single fraction.

$= \frac{7x + 2x}{14}$

Answer $\frac{9x}{14}$

**10**

Write $\frac{3x}{4} - \frac{2x}{3}$ as a single fraction.

$= \frac{9x - 8x}{12}$

Answer $\frac{x}{12}$

**11**

Write $\frac{4}{x} + \frac{3}{2}$ as a single fraction.

$= \frac{8 + 3x}{2x}$

Answer $\frac{8 + 3x}{2x}$

**12**

Write $\frac{7}{x} - \frac{2}{5}$ as a single fraction.

$= \frac{35 - 2x}{5x}$

Answer $\frac{35 - 2x}{5x}$

**13**

A rope is cut into two pieces.

One is $\frac{x}{3}$ m long and the other is $\frac{x}{5}$ m long. Write the length of the rope as a single fraction.

$= \frac{5x + 3x}{15}$

Answer $\frac{8x}{15}$ m

**14**

Solve $\frac{x}{3} + \frac{x}{4} = 14$

$\frac{7x}{12} = 14$

$7x = 168$

Answer $x = 24$

**15**

Write $\frac{3}{x} + \frac{1}{2x}$ as a single fraction in its simplest form.

$= \frac{6}{2x} + \frac{1}{2x}$

Answer $\frac{7}{2x}$

**16**

Mia says $\frac{x}{2} - \frac{x}{3} = 0$ because $x - x = 0$.

Is she right? Explain.

$= \frac{3x - 2x}{6}$

a half take away a third is not 0

Answer No: $\frac{x}{6}$