Subtract two algebraic fractions with an integer denominator

Miss Davies

Maths

Subtract algebraic fractions

1. Work out and simplify.

a) $\dfrac{10a}{7} - \dfrac{4a}{7}$

b) $\dfrac{2x + 10b}{10} - \dfrac{3b}{10}$

c) $\dfrac{2y^2 + 01}{40} - \dfrac{y^2 + 7}{40}$

d) $\dfrac{3z + 10}{t} - \dfrac{3z + 5}{t}$

2. Eva is simplifying

$$\dfrac{10y + 1}{8} - \dfrac{y - 7}{2}$$

Here is her working out.

$$\dfrac{10y + 1}{8} - \dfrac{4y - 28}{8} = \dfrac{6y - 27}{8}$$

What mistake has she made?

What is the correct answer?

Subtract algebraic fractions

3. Work out and simplify fully.

a) $\dfrac{10a + 2}{10} - \dfrac{3a}{5}$

b) $\dfrac{6 + b}{4} - \dfrac{3b}{20}$

c) $\dfrac{y^2 + 4}{10} - \dfrac{y^2 + 7}{100}$

d) $\dfrac{6z + 10}{x} - \dfrac{3z - 5}{2x}$

4. Points A and B are labelled on a number line.

$\dfrac{a + 5}{3}$ ... A ... B ... $\dfrac{10a + 2}{12}$

Work out the difference between point A and B.

Answers

Subtract algebraic fractions

1. Work out and simplify.

a) $\dfrac{10a}{7} - \dfrac{4a}{7} = \dfrac{6a}{7}$

b) $\dfrac{2x + 10b}{10} - \dfrac{3b}{10} = \dfrac{2x+7b}{10}$

c) $\dfrac{2y^2 + 10}{40} - \dfrac{y^2 + 7}{40} = \dfrac{y^2+3}{40}$

d) $\dfrac{3z + 10}{t} - \dfrac{3z + 5}{t} = \dfrac{5}{t}$

2. Eva is simplifying

$$\dfrac{10y + 1}{8} - \dfrac{y - 7}{2}$$

Here is her working out.

$$\dfrac{10y + 1}{8} - \dfrac{4y - 28}{8} = \dfrac{6y - 27}{8}$$

What mistake has she made?

- - 28 should become +28

What is the correct answer? $\dfrac{6y + 29}{8}$

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Subtract algebraic fractions

3. Workout and simplify fully.

a) $\dfrac{10a + 2}{10} - \dfrac{3a}{5} = \dfrac{4a + 2}{10}$

b) $\dfrac{6 + b}{4} - \dfrac{3b}{20} = \dfrac{2b + 30}{20}$

c) $\dfrac{y^2 + 4}{10} - \dfrac{y^2 + 7}{100} = \dfrac{9y^2 + 33}{100}$

d) $\dfrac{6z + 10}{x} - \dfrac{3z - 5}{2x} = \dfrac{9z + 15}{2x}$

4. Points A and B are labelled on a number line.

$\dfrac{a + 5}{3}$ $\dfrac{10a + 2}{12}$

A   B

Work out the difference between point A and B. $\dfrac{6a - 18}{12}$