Solving equations involving subtracting two fractions

Miss Davies

Maths

Solving equations involving subtracting fractions

1. Solve

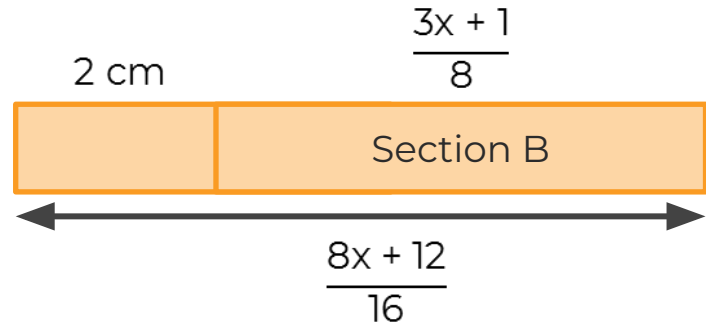a) $\dfrac{10a}{5} - \dfrac{8a}{5} = 8$

b) $\dfrac{20b + 5}{10} - \dfrac{5b}{10} = 2$

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

d) $\dfrac{7 - 2z}{2} - \dfrac{3z + 5}{2} = 16$

2. Jeremy has a length of wood. He knows that if he cuts section B from the wood he has 2 cm left.

Find the value of x.

Solving equations involving subtracting fractions

3. Solve the equations.

a) $\dfrac{6a}{10} - \dfrac{a}{5} = 7$

b) $\dfrac{6 + b}{4} - \dfrac{2b}{12} = 3$

c) $\dfrac{3c}{4} - \dfrac{2c + 1}{5} = 4$

4. Jess is solving

$$\dfrac{5 + 3b}{4} - \dfrac{2b}{12} = 0.5$$

Here is her working out.

$$\dfrac{15 + 9b}{12} - \dfrac{2b}{12} = 0.5$$

$$15 + 9b - 2b = 24$$

$$15 + 7b = 24$$

$$b = \dfrac{7}{9}$$

What two mistakes has she made?

Answers

Solving equations involving subtracting fractions

1. Solve

a) $\dfrac{10a}{5} - \dfrac{8a}{5} = 8$ a = 20

b) $\dfrac{20b + 5}{10} - \dfrac{5b}{10} = 2$ b = 1
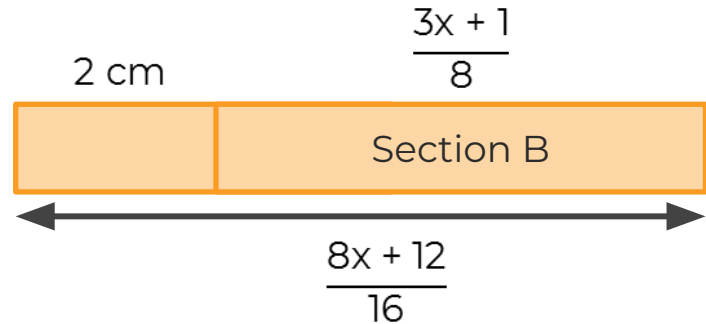
c) $\dfrac{2y^3 + 3}{3} - \dfrac{y^3}{3} = 10$ y = 3

d) $\dfrac{7 - 2z}{2} - \dfrac{3z + 5}{2} = 16$ z = -6

2. Jeremy has a length of wood. He knows that if he cuts section B from the wood he has 2 cm left.

2 cm $\dfrac{3x + 1}{8}$

Section B

$\dfrac{8x + 12}{16}$

Find the value of x.   x = 11

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Solving equations involving subtracting fractions

3. Solve the equations.

a) $\dfrac{6a}{10} - \dfrac{a}{5} = 7$ a = 17.5

b) $\dfrac{6 + b}{4} - \dfrac{2b}{12} = 3$ b = 18

c) $\dfrac{3c}{4} - \dfrac{2c + 1}{5} = 4$

c = 12

4. Jess is solving

$$\dfrac{5 + 3b}{4} - \dfrac{2b}{12} = 0.5$$

Here is her working out.

$$\dfrac{15 + 9b}{12} - \dfrac{2b}{12} = 0.5$$

$$15 + 9b - 2b = 24 \qquad 0.5 \times 12 = 6$$

$$15 + 7b = 24$$

$$b = \dfrac{7}{9} \qquad b = \dfrac{9}{7}$$

What two mistakes has she made?