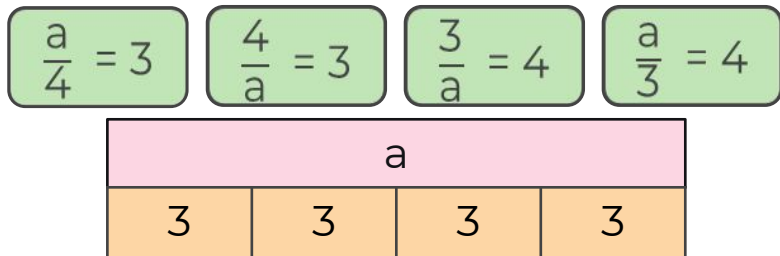


# Solving simple algebraic fractions (equal to a number) $\frac{2x + 1}{3} = 7$



# Solve simple algebraic fractions

1. Which two equations does the bar model represent?



2. Solve the equations.

a)  $\frac{b}{4} = 3$

b)  $\frac{c}{4} = -3$

c)  $5 = \frac{d}{4}$

d)  $2.5 = \frac{e}{2}$

3. Choose the right equation to match the worded problem and solve it.

I think of a number add 3 and then divide it by 2, the answer is 11

$11 = \frac{n}{2} + 3$

$\frac{n+3}{2} = 11$

$n + \frac{3}{2} = 11$

4. Solve the equations.

a)  $\frac{f+2}{3} = 6$

b)  $6 = \frac{g-2}{3}$

c)  $-6 = \frac{h+2}{3}$

d)  $3.5 = \frac{j-2}{3}$



# Solve simple algebraic fractions

5. Ella wants to solve an equation.

$$\begin{array}{ccc} \div 3 & \left( \frac{2k}{3} = 6 \right) & \div 3 \\ & \left( 2k = 2 \right) & \\ \times 2 & \left( k = 4 \right) & \times 2 \end{array}$$

What mistakes has she made?

6. Solve the equations.

a)  $\frac{2p}{3} = 6$

b)  $5 = \frac{2q}{5}$

c)  $\frac{2r+3}{3} = 6$

d)  $\frac{2s-3}{5} = 6$

7. a) Write an expression for the total of these cards.

$2t$

$t - 7$

$t + 2$

The mean of these cards is 9

b) Form and solve an equation to find  $t$ .

c) What are the values of the individual cards?



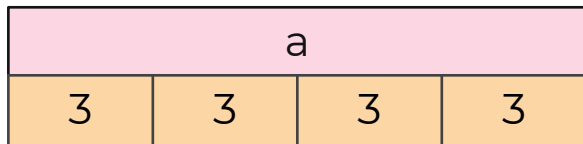
# Answers



# Solve simple algebraic fractions

1. Which two equations does the bar model represent?

$\frac{a}{4} = 3$     $\frac{4}{a} = 3$     $\frac{3}{a} = 4$     $\frac{a}{3} = 4$



2. Solve the equations.

a)  $\frac{b}{4} = 3$   $b = 12$    b)  $\frac{c}{4} = -3$   $c = -12$

c)  $5 = \frac{d}{4}$   $d = 20$    d)  $2.5 = \frac{e}{2}$   $e = 5$

3. Choose the right equation to match the worded problem and solve it.

I think of a number add 3 and then divide it by 2, the answer is 11

$11 = \frac{n}{2} + 3$

$\frac{n+3}{2} = 11$

$n + \frac{3}{2} = 11$

$n = 19$

4. Solve the equations.

a)  $\frac{f+2}{3} = 6$   $f = 16$    b)  $6 = \frac{g-2}{3}$   $g = 20$

c)  $-6 = \frac{h+2}{3}$   $h = -20$    d)  $3.5 = \frac{j-2}{3}$   $j = 12.5$



# Solve simple algebraic fractions

5. Ella wants to solve an equation.

$$\begin{array}{c} \div 3 \left( \frac{2k}{3} = 6 \right) \div 3 \\ \times 2 \left( 2k = 2 \right) \times 2 \\ \phantom{\times 2} \left( k = 4 \right) \phantom{\times 2} \end{array}$$

She should have multiplied by 3 and then divided by 2 to give  $k = 9$

What mistakes has she made?

6. Solve the equations.

a)  $\frac{2p}{3} = 6$        $p = 9$       b)  $5 = \frac{2q}{5}$        $q = 12.5$

c)  $\frac{2r+3}{3} = 6$        $r = 7.5$       d)  $\frac{2s-3}{5} = 6$        $s = 16.5$

7. a) Write an expression for the total of these cards.  $4t - 5$

$$2t$$

$$t - 7$$

$$t + 2$$

The mean of these cards is 9

b) Form and solve an equation to find  $t$ .

$$\frac{4t - 5}{3} = 9 \quad t = 8$$

c) What are the values of the individual cards?

$$16 \qquad 1 \qquad 10$$

