

8:03 | Equations with Fractions 1

Name: _____

Class: _____

Examples



- The basic rule 'do the opposite' applies.
- As fractions are divisions, we multiply.

1 Solve.

a $\frac{x}{6} = 4$

$$\cancel{6} \times \frac{x}{\cancel{6}} = 4 \times 6$$

$$\therefore x = 24$$

b $\frac{3c}{5} = -6$

$$\cancel{3} \times \frac{3c}{\cancel{3}} = -6 \times 5$$

$$3c = -30$$

$$\therefore c = -10$$

2 Simplify.

a $3 \times \frac{(x-6)}{3}$

$$= \cancel{3} \times \frac{(x-6)}{\cancel{3}}$$

$$= x - 6$$

b $4 \times \left(\frac{d}{4} + 7\right)$

$$= \cancel{4} \times \frac{d}{\cancel{4}} + 4 \times 7$$

$$= d + 28$$

3 Solve.

a $\frac{4x-1}{3} = 9$

$$\cancel{3} \times \frac{(4x-1)}{\cancel{3}} = 9 \times 3$$

$$4x - 1 = 27$$

$$4x = 28$$

$$\therefore x = 7$$

b $\frac{3m}{8} + 5 = 2$

$$8 \times \left(\frac{3m}{8} + 5\right) = 2 \times 8$$

$$3m + 40 = 16$$

$$3m = -24$$

$$\therefore m = -8$$

Exercise

1 Solve.

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

b $\frac{a}{5} = -2$

c $\frac{2m}{3} = 6$

d $\frac{5y}{4} = 10$

e $\frac{t}{7} = -3$

f $\frac{2x}{7} = 6$

g $\frac{2p}{7} = -8$

h $\frac{6a}{5} = 12$

i $\frac{w}{10} = 10$

j $\frac{4h}{3} = 8$

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

l $\frac{4t}{3} = 16$

2 Simplify.

a $5 \times \frac{(a+2)}{5}$

b $6 \times \left(\frac{x}{6} - 3\right)$

c $4 \times \frac{(2m+1)}{4}$

d $8 \times \left(\frac{c}{8} - 2\right)$

e $7 \times \frac{(4y-1)}{7}$

f $10 \times \left(3 + \frac{y}{10}\right)$

g $6 \times \frac{(7x-8)}{6}$

h $5 \times \left(\frac{2k}{5} + 1\right)$

i $6 \times \left(\frac{2m}{3} + 2\right)$

j $8 \times \left(2 - \frac{5a}{8}\right)$

k $8 \times \frac{(2c-3)}{4}$

l $4 \times \frac{(3m+7)}{4}$

3 Solve.

a $\frac{x+7}{2} = 5$

b $\frac{c-9}{4} = -2$

c $\frac{2m+5}{4} = 9$

d $\frac{d}{3} - 4 = 5$

e $\frac{2e}{7} + 2 = 6$

f $8 + \frac{3m}{5} = 5$

g $\frac{5h-7}{3} = 6$

h $\frac{3t+2}{4} = -7$

i $\frac{7m}{2} - 5 = 16$

8:03 Equations with Fractions 1

1 a $x=6$	b $a=-10$	c $m=9$	d $y=8$	e $t=-21$	f $x=21$
g $p=-28$	h $a=10$	i $w=100$	j $h=6$	k $x=50$	l $t=12$
2 a $a+2$	b $x-18$	c $2m+1$	d $c-16$	e $4y-1$	f $30+y$
g $7x-8$	h $2k+5$	i $4m+12$	j $16-5a$	k $4c-6$	l $3m+7$
3 a $x=3$	b $c=1$	c $m=15.5$	d $d=27$	e $e=14$	f $m=-5$
g $h=5$	h $t=-10$	i $m=6$			