

## Equivalence

Make the fractions equivalent:

a)  $\frac{1}{3} = \frac{3}{9} = \frac{5}{15} = \frac{10}{30}$

b)  $\frac{2}{5} = \frac{6}{15} = \frac{18}{45} = \frac{24}{60}$

Write in its simplest terms:

c)  $\frac{9}{15} = \frac{3}{5}$

d)  $\frac{28}{72} = \frac{7}{18}$

Write as a mixed number:

e)  $\frac{23}{3} = 7\frac{2}{3}$

f)  $\frac{22}{4} = 5\frac{1}{2}$

Write as an improper fraction:

g)  $3\frac{2}{5} = \frac{17}{5}$

h)  $7\frac{3}{4} = \frac{31}{4}$

## Fraction arithmetic

Evaluate:

a)  $\frac{1}{2} + \frac{1}{4} = \frac{3}{4}$

b)  $\frac{3}{8} + \frac{3}{7} = \frac{45}{56}$

c)  $1 - \frac{1}{3} = \frac{2}{3}$

d)  $\frac{8}{9} - \frac{5}{6} = \frac{1}{18}$

e)  $\frac{1}{4} \times \frac{1}{3} = \frac{1}{12}$

f)  $\frac{5}{7} \times \frac{21}{25} = \frac{3}{5}$

g)  $\frac{1}{4} \div \frac{1}{8} = 2$

h)  $\frac{4}{11} \div \frac{2}{3} = \frac{6}{11}$

i)  $\frac{1}{2} \times \frac{2}{3} \times \frac{3}{4} = \frac{1}{4}$

Converting fractions, decimals  
& percentages

Complete the table:

Fraction	Decimal	Percentage
$\frac{1}{2}$	0.5	50%
$\frac{1}{4}$	0.25	25%
$\frac{9}{10}$	0.9	90%
$\frac{3}{5}$	0.6	60%
$\frac{3}{8}$	0.375	37.5%

## Writing percentages

Express as a percentage:

a) 17 out of 25 = 68%

b) 18 out of 40 = 45%

c) 23 out of 80 = 28.75%

## Percentages as operators

Find:

a) 10% of 120 = 12

b) 15% of 280 = 42

c) 89% of 190 = 169.1

## Decimal arithmetic

Use a handwritten method to calculate:

a)  $4.63 + 2.45 = 7.08$

b)  $1.05 - 0.188 = 0.862$

c)  $1.4 \times 3.8 = 5.32$

d)  $12.5 \div 0.4 = 31.25$

## Comparing fractions

Use =, &lt;, or &gt;:

a)  $\frac{3}{4} < \frac{4}{5}$

b)  $\frac{2}{7} < \frac{4}{13}$

c)  $\frac{17}{6} = 2\frac{5}{6}$

d)  $3\frac{3}{5} < \frac{11}{3}$

## Fractions as operators

Find:

a)  $\frac{1}{2}$  of 26 = 13

b)  $\frac{2}{5}$  of 35 = 14

c)  $\frac{3}{4}$  of 36 Kg = 27 Kg

d)  $\frac{5}{8}$  of £4 = £2.50

## Percentage increase and decrease

a) Increase 86 by 10% = 94.6

b) Decrease 164 by 35% = 106.6

Find the percentage change from A to B:

c)  $A = 250, B = 375 = 50\% \text{ increase}$

d)  $A = £2.80, B = £2.66 = 5\% \text{ decrease}$

## Simple interest

£2500 is invested in an account that receives 4% simple interest per annum. What is the total value of the investment after 3 years?

£2800