

Key Language

1	term	Small part of an expression. e.g. $5x$, k^2 , $4ab$
2	coefficient	The number in a term e.g. in $5x + 3$, the coefficient of x is 5.
3	eliminate	To get rid of something
4	point of intersection	The point where two lines or curves meet (on a graph)
5	substitute	Replace the variable (letter) with a value (number)
6	population density	The number of people who live in each area, on average e.g. 259 people per km^2
7	Pascal (Pa)	A unit of pressure. $1 \text{ Pa} = 1 \text{ N/m}^2$

Metric unit conversions

Length/distance

1 km = 1000 m
1 m = 100 cm
1 cm = 10 mm

Mass

1 tonne = 1000 kg
1 kg = 1000 g
1 g = 1000 mg

Capacity

1 litre = 1000 ml
1 litre = 100 cl
1 cl = 10 ml

Length units: kilometre, metre, centimetre, millimetre

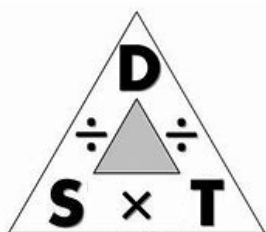
Mass units: tonne, kilogram, gram, milligram

Capacity: litre, centilitre, millilitre



Know

Speed



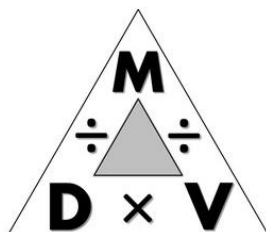
Example formula
from triangle:

$$D = S \times T$$

Example units:

km/h, mph, m/s

Density



Example formula
from triangle:

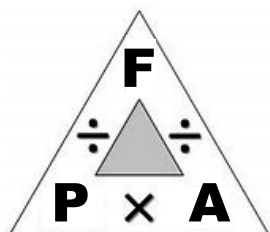
$$D = \frac{M}{V}$$

Example units:

g/cm^3 , kg/m^3



Pressure



Example formula
from triangle:

$$A = \frac{F}{P}$$

Example units:

N/m² (Pascals)

Revision:
Fractions,
Decimals
and
Percentages

Fraction	Decimal	Percentage
$\frac{1}{2}$	0.5	50%
$\frac{1}{4}$	0.25	25%
$\frac{1}{3}$	0.333333..... 0. $\dot{3}$	33. $\dot{3}$ %
$\frac{3}{4}$	0.75	75%
$\frac{1}{5}$	0.2	20%


 Know

PRACTICE QUESTIONS

Ten of these questions will be chosen, with very little change, to make the Knowledge Test. If you can confidently answer all of these, you will pass easily. Use pages 1 and 2 to research and *learn* anything that you don't know yet.

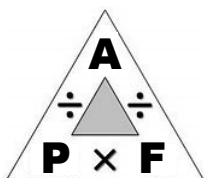
1. What is $\frac{3}{4}$ as a percentage?
2. What is the decimal equivalent of 25%?
3. What simplified fraction is equivalent to the decimal 0. $\dot{3}$?
4. What is $\frac{1}{5}$ as a decimal?


 Do

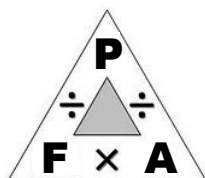
NOTE: Questions like Q1-4 could use any of the conversions in the table above.

5. Draw a formula triangle for density.
6. Which of these is a correct formula triangle for pressure?

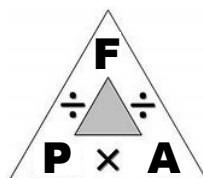
A:



B:



C:



PRACTICE QUESTIONS (continued)

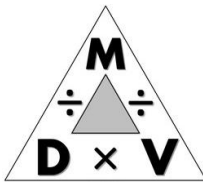
7. Draw a formula triangle for speed.
8. Which of these could be a unit for density:
 A: kg/m^2 B: g/cm^3 C: Pascals ?
9. Write down an example of possible units for a speed.
10. Which of these is equal to 1 Pascal:
 A: 1 kg/m^2 B: 1 N/m^2 C: 1 N/cm^2 ?
11. What word do we use for a small part of an expression, such as $5x$, k^2 , $4ab$?
12. In the expression $5x + 2y + 7xy$, what is the coefficient of y ?
13. Complete these metric conversions:
 (a) $1 \text{ km} = \underline{\hspace{2cm}} \text{ m}$ (e) $1 \text{ kg} = 1000 \underline{\hspace{1cm}}$
 (b) $1 \text{ tonne} = \underline{\hspace{2cm}} \text{ kg}$ (f) $1 \text{ litre} = 1000 \underline{\hspace{1cm}}$
 (c) $1 \text{ litre} = \underline{\hspace{2cm}} \text{ cl}$ (g) $1 \text{ cm} = 100 \underline{\hspace{1cm}}$
 (d) $1 \text{ g} = \underline{\hspace{2cm}} \text{ mg}$ (h) $1 \text{ m} = 100 \underline{\hspace{1cm}}$


NOTE: Questions like Q13 could use any of the conversions on page 1.



ANSWERS

1. 75%
2. 0.25
3. $\frac{1}{3}$
4. 0.2
5. e.g.


6. C
7. e.g.


8. B: g/cm^3
9. e.g. mph, km/h, m/s
10. B: 1 N/m^2
11. term
12. 2
13.
 - (a) 1000
 - (b) 1000
 - (c) 100
 - (d) 1000
 - (e) g (grams)
 - (f) ml (millilitres)
 - (g) mm (millimetres)
 - (h) cm (centimetres)