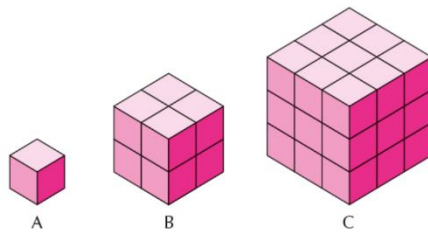


Year 7 Mathematics 2023-2024



	Die			
	1	2	3	4
Spinner	P, 1	P, 2	P, 3	P, 4
	Q, 1	Q, 2	Q, 3	a
	R, 1	R, 2	b	c
	d	e	f	g



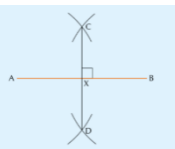
$$\sqrt[3]{32}^3 = 32$$

$$x^5$$

$$25^{1/2}$$

$$3^{-4} = \frac{1}{3^4}$$

$$y^3 \times y^6 = y^9$$

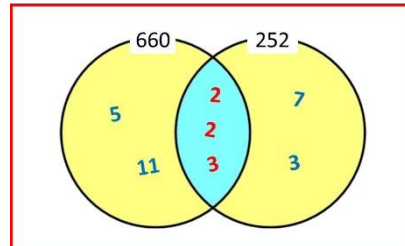
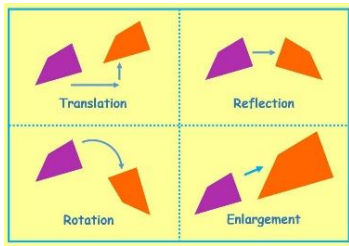
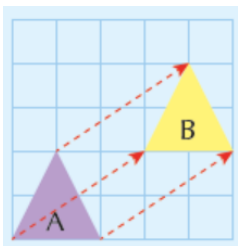
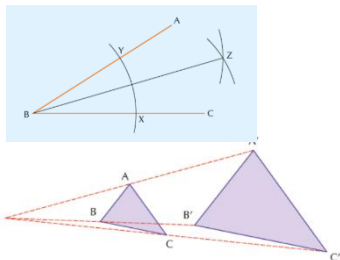
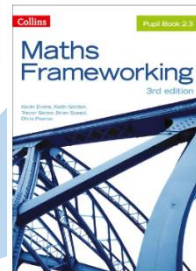
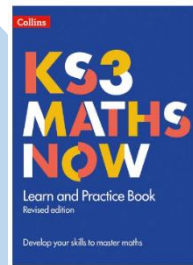


3. Probability

Assessment

2. Geometry

1. Working with numbers



$$660 = 2^3 \times 3 \times 5 \times 11$$

$$252 = 2^2 \times 3^2 \times 7$$

$$\text{HCF} = 2 \times 2 \times 3 = 12$$

$$\text{LCM} = 5 \times 11 \times 2 \times 2 \times 3 \times 7 \times 3 = 13,860$$

16. 3D shapes

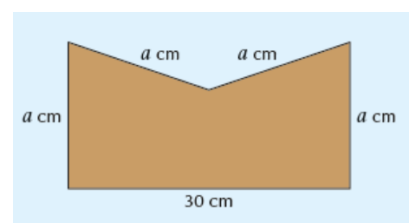
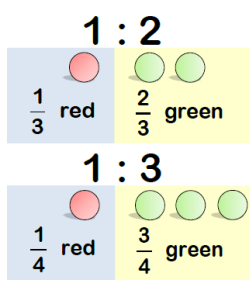
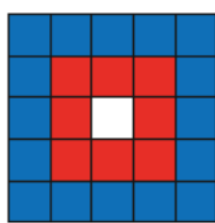
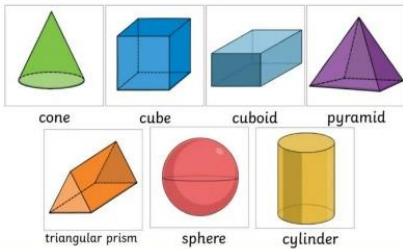
17. Ratio

Term 6

Examination

Maths Frameworking 3rd edition Text 2.3

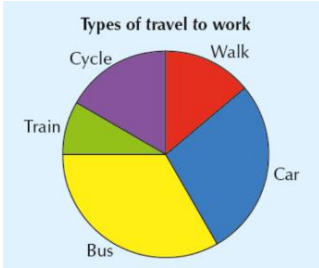
3D Shapes



Assessment

15. Interpreting data

14. Equations



$$5x + 1 = 3x + 5$$

$$-3x \quad -3x$$

$$2x + 1 = 5$$

$$-1 \quad -1$$

$$2x = 4$$

$$\div 2 \quad \div 2$$

$$x = 2$$

Term 5

10. Coordinates and graphs

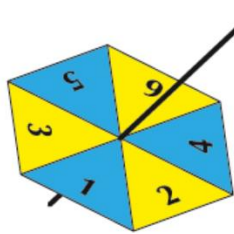
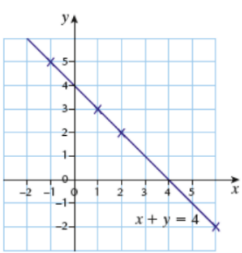
11. Percentages

12. Probability

Assessment

13. Symmetry

Term 4



Experimental probability	Theoretical probability
5 appears 140 times. $P(\text{roll a } 5) = \frac{140}{1000}$	5 appears. $P(\text{roll a } 5) = \frac{1}{6}$
Roll a die 1000 times.	Roll a die once.

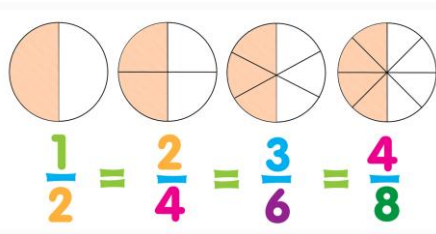
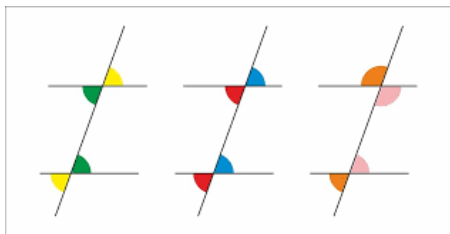
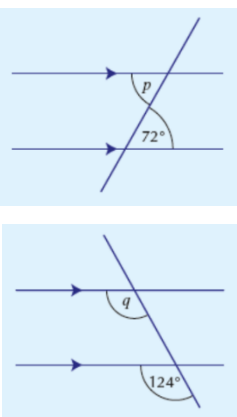


Assessment

9. Angles

8. Fractions

7. Algebra



Solving Equations

Variable Terms	Constant Terms
$5x - 2 = 3x + 4$	
$-3x \quad -3x$	
$2x - 2 = 4$	
$+2 \quad +2$	
$2x = 6$	
$\div 2 \quad \div 2$	
$x = 3$	

Term 3

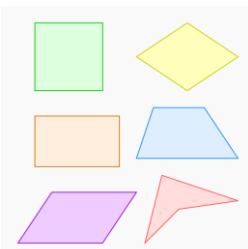
4. Decimal numbers

5. Working with numbers

6. Statistics

Assessment

Term 2



BIDMAS

() x^y \div or \times $+$ or $-$

Brackets Indices Divide & Multiply Add & Subtract

Order of Operations

Mean
Median
Mode
Range

Frequency Table

Number	Tally	Frequency
1		4
2		4
3		4
4		4
5		4



Assessment

3. Perimeter and volume

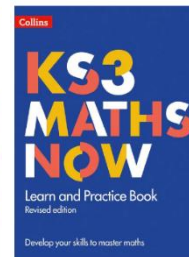
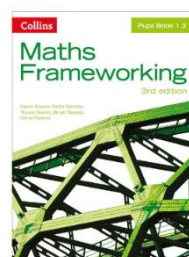
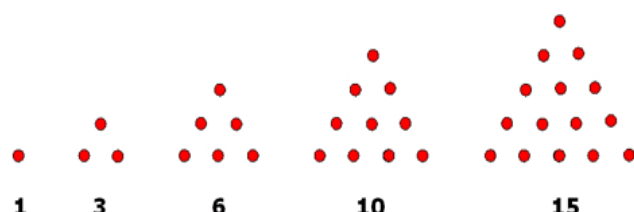
2. Sequences

1. Using numbers

Maths Frameworking 3rd edition Text 1.3

Term 1
START

Perimeter Area Volume



Year 8 Mathematics 2023-2024



Sine

Sine of angle A = $\frac{Opp}{Hyp}$

Cosine

Cosine of angle A = $\frac{Adj}{Hyp}$

Tangent

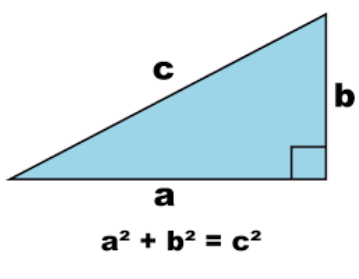
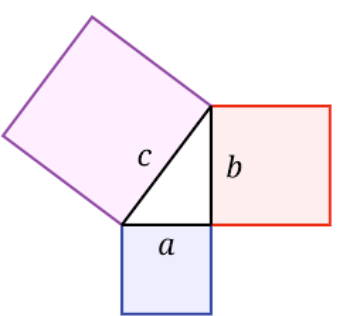
Tangent of angle A = $\frac{Opp}{Adj}$

density $\rho = \frac{m}{v}$

mass
volume

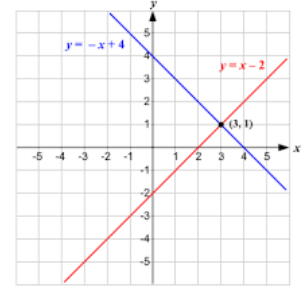
Distance, Speed, and Time

- 13. Right-angled triangles
- 12. Compound units
- 11. Solving equations graphically



Fractions

1 one whole	1/2 half	1/3 third	1/4 quarter
2/3 two thirds	3/4 three quarters	1/5 fifth	2/5 two fifths
3/5 three fifths	4/5 four fifths	1/6 sixth	5/6 five sixths
1/7 seventh	2/7 two sevenths	3/7 three sevenths	4/7 four sevenths
5/7 five sevenths	6/7 six sevenths	1/8 eighth	3/8 three eighths
5/8 five eighths	7/8 seven eighths	1/9 ninth	2/9 two ninths
4/9 four ninths	5/9 five ninths	2/10 two tenths	3/10 three tenths
7/10 seven tenths	9/10 nine tenths	1/10 tenth	9/10 nine tenths



Bridge to Year 9

- 6. Pythagoras' theorem
- Term 6
- 7. Fractions
- 8. Algebra
- Assessment
- 9. Decimal numbers
- 10. Surface area and volume of cylinders

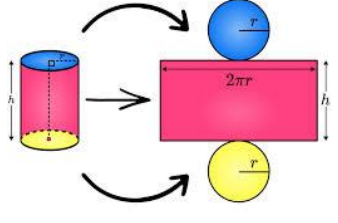
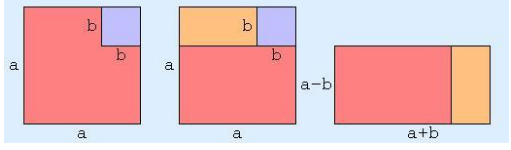
Assessment

Ones
Tens
Decimal Point
1/10 (tenths)
1/100 (hundredths)
1/1000 (thousandths)

17.591

10x Bigger ← → 10x Smaller

$$a^2 - b^2 = (a + b)(a - b)$$



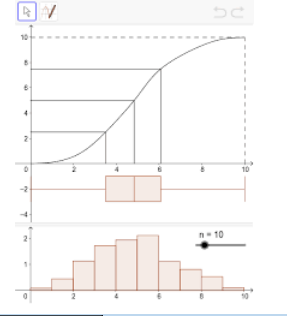
Volume of a Cylinder

$$\pi r^2 h$$

Decimal 0.5	Fraction 1/2	Percentage 50%
----------------	-----------------	-------------------

- 5. Application of graphs
- 4. Using data
- Term 5 Examination
- 3. Polygons
- Assessment
- 2. Equations and formulae
- 1. Percentages

Parts of a Circle



Types of Polygons

triangle	quadrilateral	pentagon	hexagon
heptagon	octagon	nonagon	decagon

$£200 \times 1.05^3 = £231.53$

- 14. Circles
- 15. Equations and formulae
- Term 4
- 16. Comparing data
- Assessment
- Maths Frameworking 3rd edition Text 3.3

Area = πr^2
Circumference = $2\pi r$

IF $x + z = 2y$...

$x =$ $y =$ $4y =$

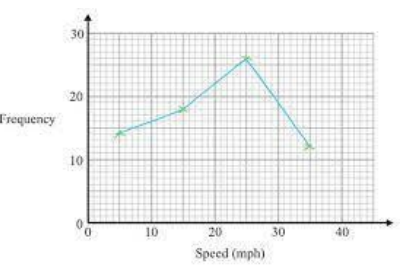
$z =$

mean
The mean is the average or norm.
- Add up all of the values to find a total.
- Divide the total by the number of values you added together.
2, 2, 3, 5, 5, 7, 8
 $\frac{32}{8} = 4$
The mean is 4

median
The median is the middle value.
- Put all of the values into order.
- The median is the middle value.
- If there are two values in the middle, find the mean of these two.
2, 2, 3, 5, 5, 7, 8
The median is 5

mode
The mode is the most frequent value.
- Count how many of each value appears.
- The mode is the value that appears the most.
- You can have more than one mode.
2, 2, 3, 5, 5, 7, 8
The modes are 2 and 5

range
The range is the difference between the lowest and highest value.
- Find the highest and lowest values.
- Subtract the lowest value from the highest.
2, 2, 3, 5, 5, 7, 8
 $8 - 2 = 6$
The range is 6

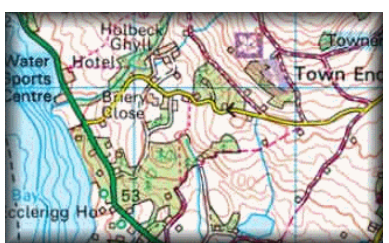
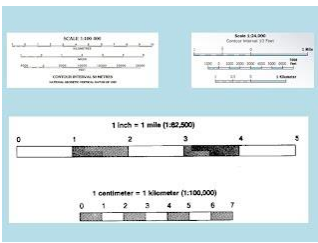


Assessment

Inverse Proportion

- 13. Proportion
- Term 3
- 12. Fractions and decimals
- Assessment
- 11. Shape and ratio
- 10. Algebra
- 9. Interpreting data

Direct Proportion



Expand the brackets

$2(x + 8) = 2x + 16$

$6y(9 - y) = 54y - 6y^2$

Significant Figures

0.0701

1st significant figure: 0
2nd significant figure: 7
3rd significant figure: 0

Term 2

- 4. Percentages
- 5. Congruent shapes
- Year 8 term 1
- 6. Surface area and volume of prisms
- 7. Graphs
- 8. Number

Assessment

Retrieval practice from Year 7 during term 1

% profit

$$\% \text{ profit} = \frac{\text{sales} - \text{costs}}{\text{costs}} \times 100$$

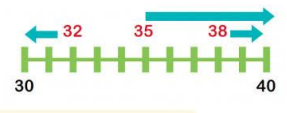
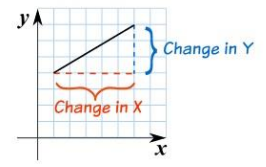
Congruence Criteria

- SSS (Side - Side - Side)**: 3 sides are respectively equal.
- SAS (Side - Angle - Side)**: 2 sides and the included angle are respectively equal.
- ASA (Angle - Side - Angle)**: 2 angles and the included side are respectively equal.
- RHS (Right angle - Hypotenuse - Side)**: Hypotenuse and one side are respectively equal.

Calculate
The method to calculate the Gradient is:

Divide the change in height by the change in horizontal distance

$$\text{Gradient} = \frac{\text{Change in Y}}{\text{Change in X}}$$



- 3. Probability
- 2. Geometry
- 1. Working with numbers
- Maths Frameworking 3rd edition Text 2.3
- START**

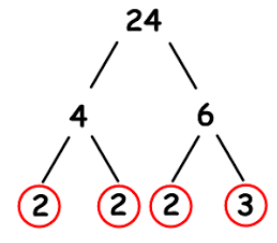
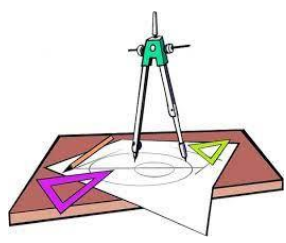
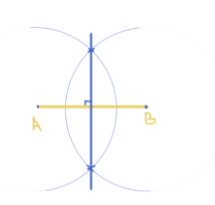
A 6-sided and a 4-sided die are thrown and their scores added.

What is P(4 or 7)?

$$= P(4) + P(7)$$

$$= \frac{3}{24} + \frac{4}{24} = \frac{7}{24}$$

		Score on 1 st Die						
Score on 2 nd Die	1	1	2	3	4	5	6	7
	2	2	3	4	5	6	7	8
	3	3	4	5	6	7	8	9
	4	4	5	6	7	8	9	10



Year 9 Mathematics 2023-2024

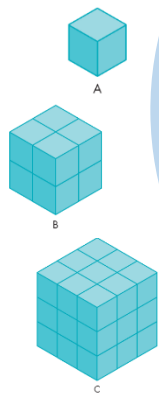
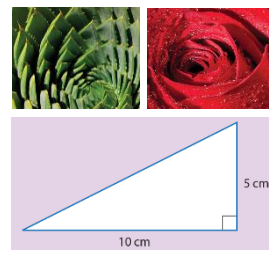
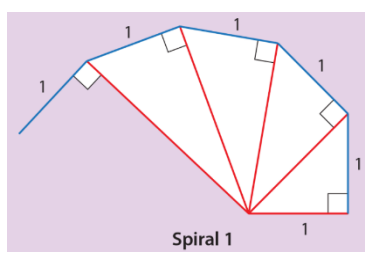
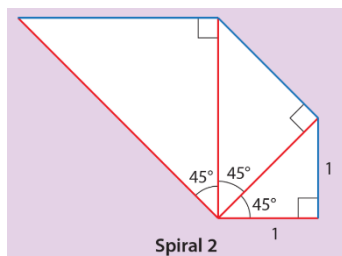
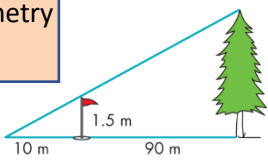


Mathematical reasoning

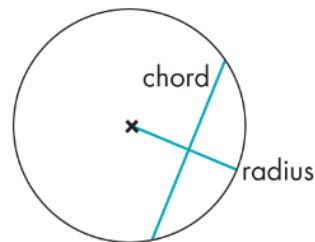
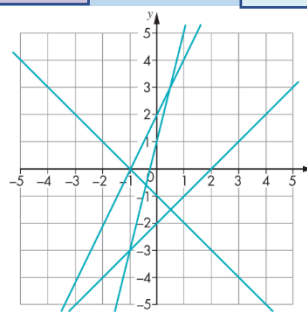
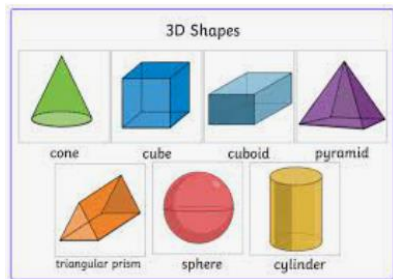
Assessment



Trigonometry



Graphical solutions Accuracy and measures **Term 6** Non-linear graphs Multiplicative reasoning Assessment Collecting and analysing data Inequalities, equations and formulae



Term 5

13. Exploring and applying probability

14. Powers and standard form

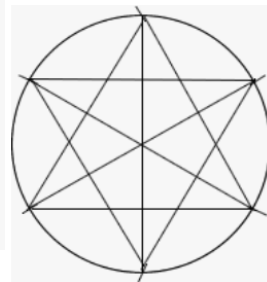
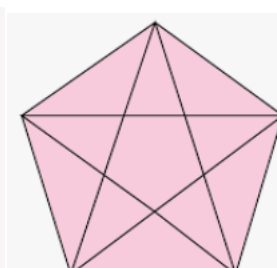
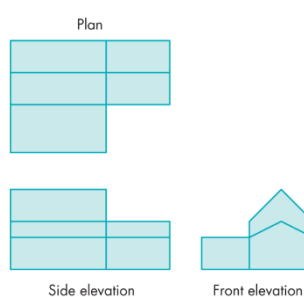
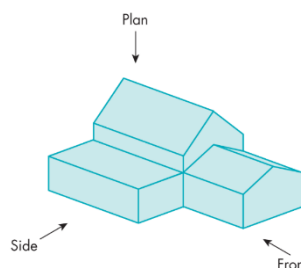
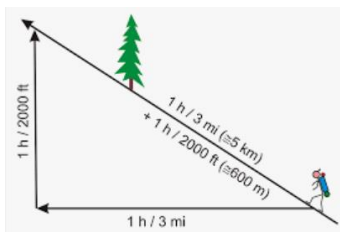
Assessment **Term 4**

15. Equations and inequalities

Powers and roots

Quadratics

Assessment



12: Similarity

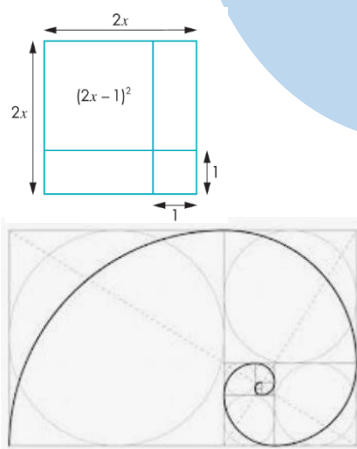
Term 3

11: Right-angled triangles

Assessment

10. Linear Graphs

9: Length, area and volume



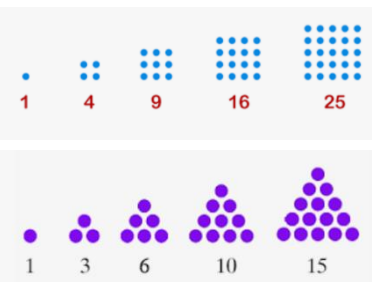
5 : Ratio and proportion

Assessment **Term 2**

6: Angles

7: Transformations, constructions and loci

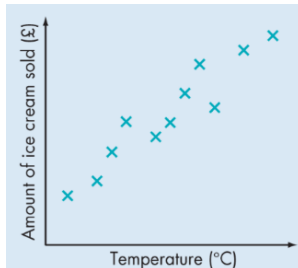
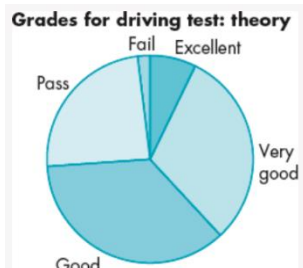
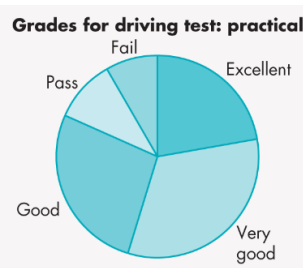
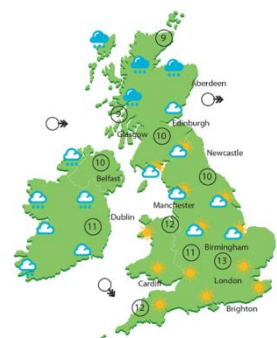
8: Algebraic manipulation



4: Number and sequences

3: Statistical diagrams and averages retrieval practice

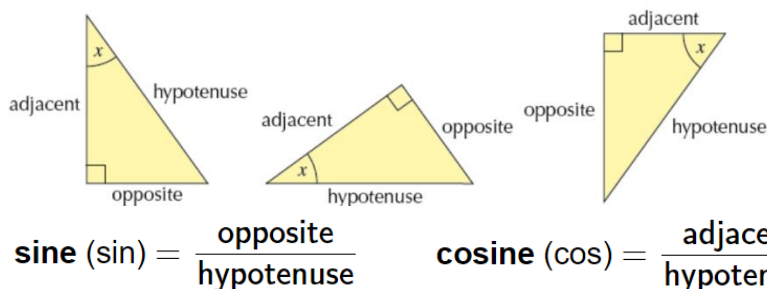
2: Fractions, ratio and proportion retrieval practice



Collins KS3 Maths Now Learn and Practice Book

Collins Edexcel GCSE Maths Higher Student book

1: Basic number retrieval practice



$S = \frac{O}{H}$
 $C = \frac{A}{H}$
 $T = \frac{O}{A}$

13. Right-angled triangles

12. Compound units

11. Solving equations graphically

10. Surface area and volume of cylinders

Maths Frameworking 3rd Edition Text 3.3

Term 1
START

$\text{density} = \frac{\text{mass}}{\text{volume}}$

$\text{speed} = \frac{\text{distance}}{\text{time}}$

