

Name: _____

Revision Booklet

Area of a  or  = length $\times$ width

$$\text{Area of } \square = l \times w$$

Area of a $\triangle = \frac{1}{2}$ base $\times$ perpendicular height

$$\text{Area of } \triangle = \frac{1}{2} b \times ph$$

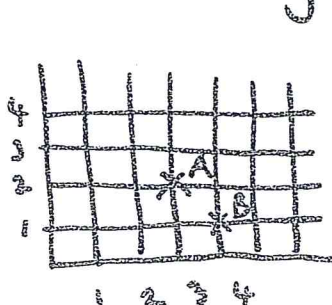
Speed (or velocity) = Distance $\div$ Time
or $\frac{\text{Distance}}{\text{Time}}$

$$\text{Speed} = \frac{\text{Dist}}{\text{Time}}$$

Average = Sum of all the items $\div$
number of items

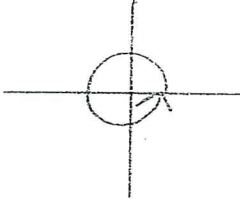
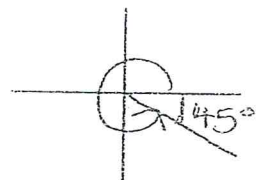
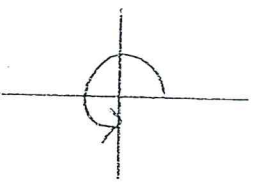
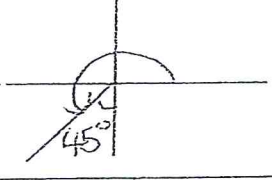
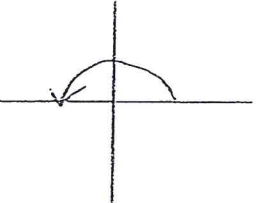
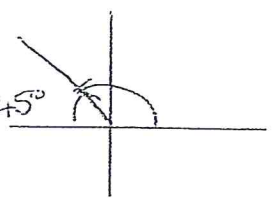
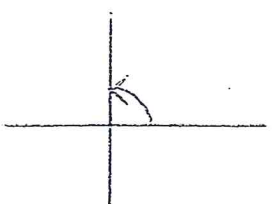
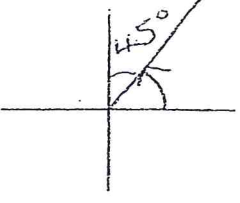
$$\text{Ave} = \frac{\text{Sum of items}}{\text{No. of items}}$$

Co-ordinates $\rightarrow$ When plotting a point,
in through the door, then up the stairs

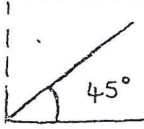
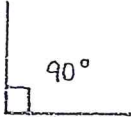
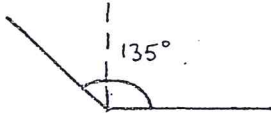
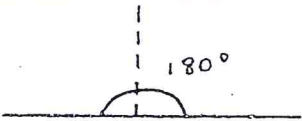
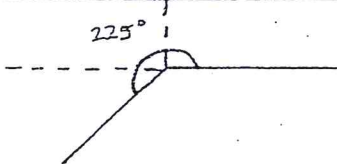
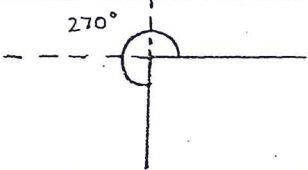
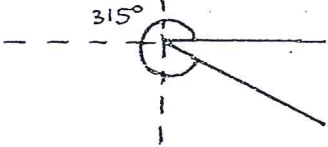
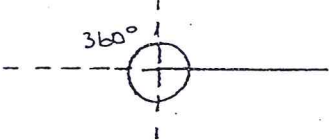


$\rightarrow \uparrow$
Plot A (3, 2) $\rightarrow \uparrow$
Plot B (4, 1) $\rightarrow \uparrow$

Angles - degrees of turning Info Sheet

360°		one full turn 4 right angles
315°		$\frac{7}{8}$ turn $3\frac{1}{2}$ right angles
270°		$\frac{3}{4}$ turn 3 right angles
225°		$\frac{5}{8}$ turn $2\frac{1}{2}$ right angles
180°		$\frac{1}{2}$ turn 2 right angles
135°		$\frac{3}{8}$ turn $1\frac{1}{2}$ right angles
90°		$\frac{1}{4}$ turn 1 right angle
45°		$\frac{1}{8}$ turn $\frac{1}{2}$ right angle

Angles

Degrees	No. of Right Angles	The Drawn Angle
45°	$\frac{1}{2}$	
90°	1	
135°	$1\frac{1}{2}$	
180°	2	
225°	$2\frac{1}{2}$	
270°	3	
315°	$3\frac{1}{2}$	
360°	4	

Fractions, Decimals, %s.

	Vulgar Fraction	Decimal Fraction	Percentage	Equivalent Fractions
one whole	1 or $\frac{1}{1}$	1.0	100%	$\frac{2}{2}, \frac{4}{4}, \dots$
three quarters	$\frac{3}{4}$	0.75	75%	$\frac{6}{8}, \frac{9}{12}, \dots$
one half	$\frac{1}{2}$	0.5	50%	$\frac{2}{4}, \frac{4}{8}, \dots$
one third	$\frac{1}{3}$	0.33	33-33%	$\frac{3}{9}, \frac{9}{27}, \dots$
one quarter	$\frac{1}{4}$	0.25	25%	$\frac{2}{8}, \frac{3}{12}, \frac{4}{16}, \dots$
one fifth	$\frac{1}{5}$	0.2	20%	$\frac{2}{10}, \frac{3}{15}, \frac{4}{20}, \dots$
one tenth	$\frac{1}{10}$	0.1	10%	$\frac{2}{20}, \frac{3}{30}, \dots$

	VULGAR FRACTION	DECIMAL FRACTION	PERCENTAGE	EQUIVALENT FRACTIONS
one eighth	$\frac{1}{8}$	0.125	12.5% ($12\frac{1}{2}\%$)	$\frac{2}{16}, \frac{3}{24}, \frac{4}{32}$
three eighths	$\frac{3}{8}$	0.375	37.5% ($37\frac{1}{2}\%$)	$\frac{6}{16}, \frac{9}{24}, \frac{12}{32}$
five eighths	$\frac{5}{8}$	0.625	62.5% ($62\frac{1}{2}\%$)	$\frac{10}{16}, \frac{15}{24}, \frac{20}{32}$
seven eighths	$\frac{7}{8}$	0.875	87.5% ($87\frac{1}{2}\%$)	$\frac{14}{16}, \frac{21}{24}, \frac{28}{32}$
two thirds	$\frac{2}{3}$	0.666	66.66%	$\frac{4}{6}, \frac{6}{9}, \frac{8}{12}$
two fifths	$\frac{2}{5}$	0.4 (0.40)	40%	$\frac{4}{10}, \frac{6}{15}, \frac{8}{20}$
three fifths	$\frac{3}{5}$	0.6 (0.60)	60%	$\frac{6}{10}, \frac{9}{15}, \frac{12}{20}$
four fifths	$\frac{4}{5}$	0.8 (0.80)	80%	$\frac{8}{10}, \frac{12}{15}, \frac{16}{20}$

Handling Data - surveys, tables, graphs, databases.

Mean
(average)

The mean is the average.
Divide the total of all the items
by the number of items.
$$\frac{\text{Total of all the items}}{\text{Number of items}}$$

Mode
(most often)

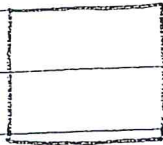
The mode is the number
that occurs the most often, or
is the most popular.

Median
(middle)

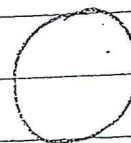
The median is the number in
the middle when they are all
put in order.

Info Sheet

2D Shapes



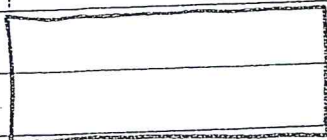
square



circle



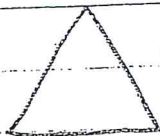
oval



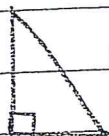
rectangle



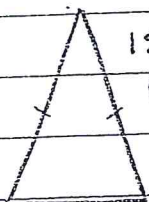
semi circle



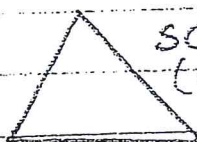
equilateral triangle
(all sides + angles the same)



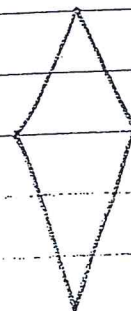
right-angled triangle



isosceles triangle
(2 sides + angles the same)



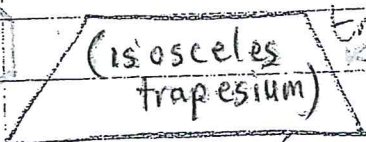
scalene triangle
(all sides + angles different)



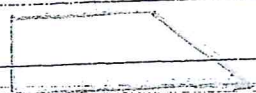
kite



(isosceles trapezium)



trapezium



parallelogram
(opposite sides parallel)



rhombus

(sides same
angles not)

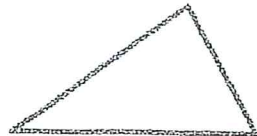


hexagon

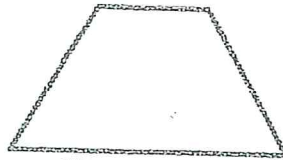


pentagon

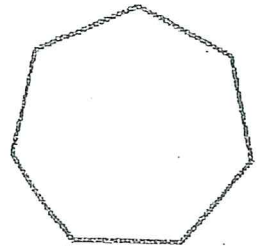
Shape Index



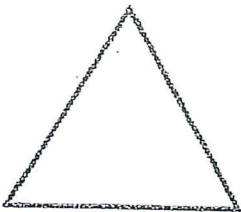
Scalene Triangle



Trapezium



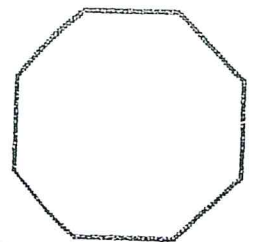
Regular Heptagon



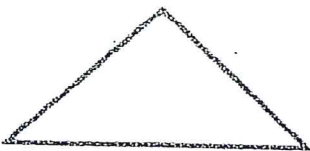
Equilateral Triangle



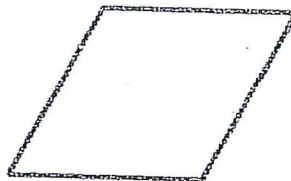
Kite



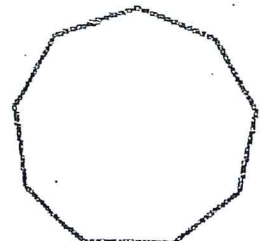
Regular Octagon



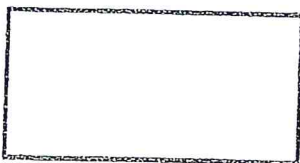
Isosceles Triangle



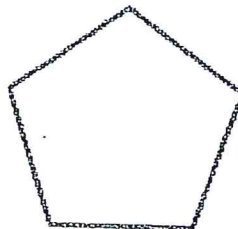
Rhombus



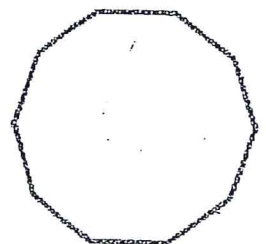
Regular Nonagon



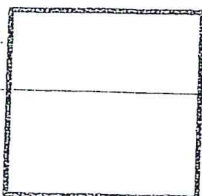
Rectangle



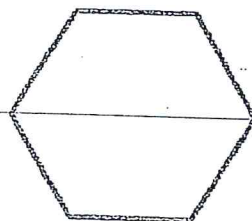
Regular Pentagon



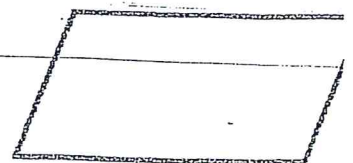
Regular Decagon



Square

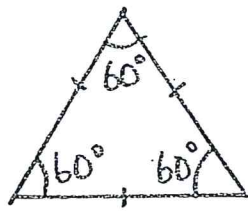


Regular Hexagon



Parallelogram

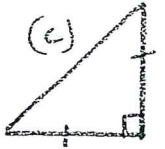
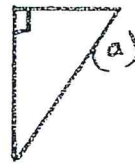
Equilateral Triangle



All sides equal
All angles equal
Each angle 60°

 Dash means sides with dashes are equal, so those angles are equal.

Right-angled Triangle



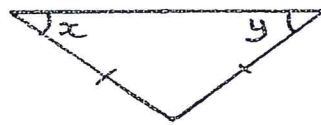
Has one right angle of 90° (or square corner).

Can be isosceles (c) or scalene (a or b) too.

Line opposite right angle is called the hypotenuse. It's always the longest.

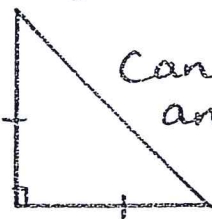


Isosceles Triangle



2 sides equal
2 angles equal

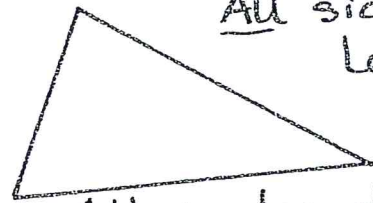
Angle $x = \text{angle } y$



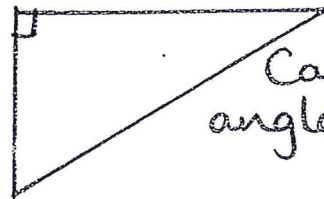
Can be a right angled triangle too.

Scalene Triangle

All sides different lengths



All angles different sizes.



Can be a right angled triangle too.

REMEMBER: All the angles inside any Δ always add up to 180° .

ANGLES

Right angle



(or square corner)
Always 90°

Obtuse angle



Greater than 90° but less than 180°
e.g. $98^\circ, 155^\circ$

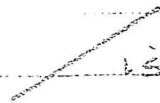
Acute angle



Between 0 and 90°
Smaller than a right angle.
e.g. $25^\circ, 89^\circ$

Mathematical Vocabulary

Mathematical Vocabulary

diagonal : at an angle =  is a diagonal line

perpendicular : makes a right angle = 

parallel : never meeting 

vertical : up and down 

horizontal : straight across 

regular : all angles + sides equal =  a square is a regular quadrilateral

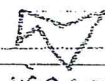
irregular : not all sides + angles equal
=  : an irregular quadrilateral

quadrilateral : any shape with 4 sides
e.g. square, trapezium

pentagon : any shape with 5 sides

e.g.  irregular  regular

hexagon : any shape with 6 sides

e.g.  regular  irregular

2D : having 2 dimensions, i.e. length + width

All 2D shapes are flat:    

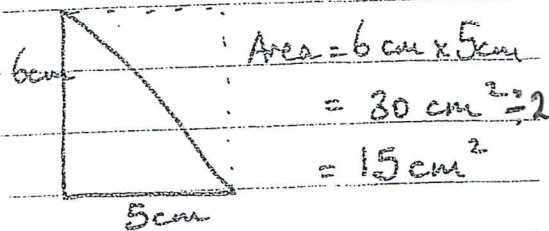
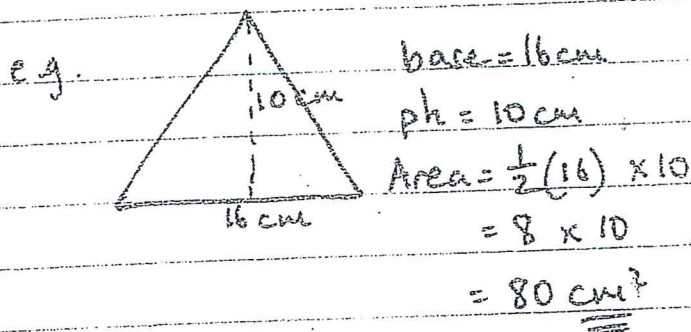
3D : having 3 dimensions i.e. length, width + height

e.g.   

Info sheet : MATHS

AREA of Δ

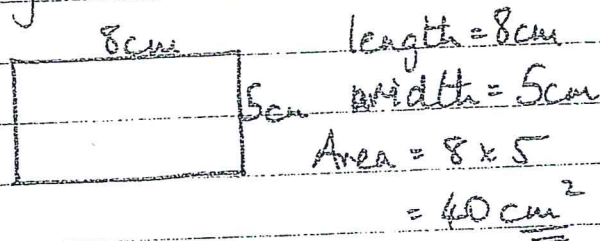
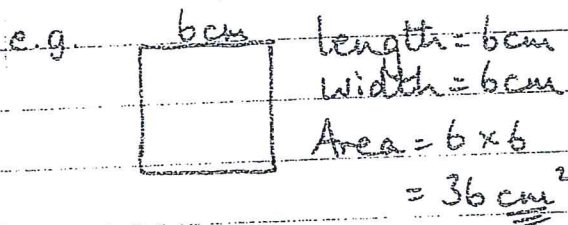
Area of a $\Delta = \frac{1}{2}$ the base $\times$ perpendicular height
or if a right-angled Δ , find area of $\square$ and $\div$ by 2



* Area is measured
in squared units
 $= \text{cm}^2 / \text{m}^2$

AREA of $\square$ or $\square$

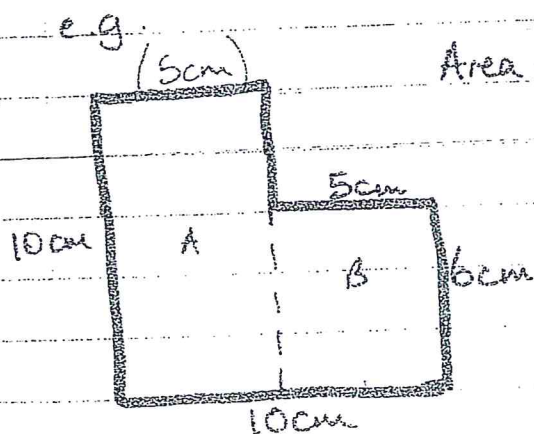
Area of a $\square$ or $\square$ = length $\times$ width



AREA of composite shape

Split shape into smaller shapes and find areas of those. Then add smaller areas to find total area.

* Make sure you have the correct measurements of each length and width.



Area of A = $10 \text{ cm} \times 5 \text{ cm}$
 $= 50 \text{ cm}^2$

Area of B = $5 \text{ cm} \times 6 \text{ cm}$
 $= 30 \text{ cm}^2$

Total Area = $50 + 30$
 $= 80 \text{ cm}^2$

✚ add sum plus total increase addition	subtract decrease minus take away less find the difference
times multiply product double triple quadruple ✖	divide portions share quotient distribute between group ÷

To multiply a number by 10, put a 0 onto the end e.g. $21 \times 10 = 210$, $66 \times 10 = 660$

To multiply by 100, put two 0s onto the end e.g. $16 \times 100 = 1600$

To multiply by 1000, put three 0s onto the end e.g. $17 \times 1000 = 17,000$

To divide by 10, remove one 0, or move the decimal point one place to the left, e.g. $600 \div 10 = 60$ $38.5 \div 10 = 3.85$

To divide by 100, remove two 0s or move the decimal point 2 places to the left e.g. $12,000 \div 100 = 120$ or $189.5 \div 100 = 1.895$

Multiply $\rightarrow$ move decimal point to the right.

Mathematical Vocabulary

INFO^N
SHEET

+

add

plus

sum of

greater than

increase

altogether

total

subtract

minus

take away

find the difference

deduct

less than

decrease

lessen

multiply

times

product

sets of

divide

quotient

share

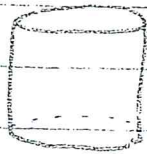
division

x

÷

Info Sheet

3D Shapes

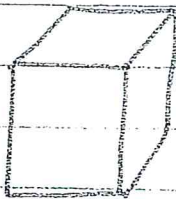


cylinder



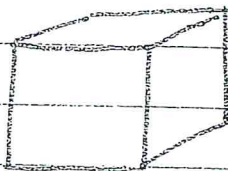
cone

NOTE:



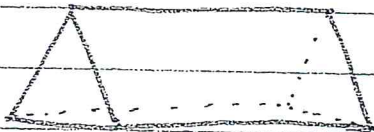
cuboid

* A pyramid come to a point



cube

* A prism stays the same width all the way



triangular prism



square based pyramid



triangular based pyramid



hexagonal prism

100%	$\frac{1}{1}$	1
50%	$\frac{1}{2}$	0.5
25%	$\frac{1}{4}$	0.25
75%	$\frac{3}{4}$	0.75
20%	$\frac{1}{5}$	0.2
30%	$\frac{3}{10}$	0.3
10%	$\frac{1}{10}$	0.1
1%	$\frac{1}{100}$	0.01
60%	$\frac{3}{5}$	0.6
$12\frac{1}{2}\%$	$\frac{1}{8}$	0.125

Handling Data

MEAN $\rightarrow$ Average : $\frac{\text{The sum of the items}}{\text{Number of items}}$

MODE $\rightarrow$ Most often : The item that appears most often or most frequent

MEDIAN $\rightarrow$ Middle item when in order.
Put the items in order, the middle item, then, is the median.

RANGE $\rightarrow$ Smallest measurement to largest measurement, e.g.
range of heights : 140cm to 155cm

INTERVALS $\rightarrow$ A measurement lying between 2 measurements, e.g. 15-17cm, 18-20c

Explain these mathematical terms:

product

regular

scalene triangle

consecutive

in ascending order

perpendicular

parallel

vertical

plot the co-ordinates

total surface area

capacity

Info
Sheet

SPEECH

LANGUAGE

- Speech always begins with capital letter.
e.g. "We are fine," Mary said.
- If you open speech, you must close it.
" and "
- There is always a piece of punctⁿ before you open and close speech marks
e.g. "I am cold," Joe said, "but I'll be fine."
- There is always a piece of punctⁿ after 'said' or 'said Mrs. King' for example.
e.g. "It is cold," Tom said to Kate.
"It is cold," Tom said, "but I'll be fine."
"It is cold," Tom said. "Where are my gloves?"
- Speech marks go after other punctⁿ,
NEVER on top!
e.g. " ✓ ~~"~~ ✓ ~~"~~
- Check if speech is all one sentence or more than one.

Language Infoⁿ sheet

Simile → A simile compares something to another thing - often uses as as.
e.g. as graceful as a swan.

Dialogue → Speech or conversation

Mary said, "Are you cold?"
"My dog is fierce," John remarked.

4 different types of sentence:

- statements
- questions
- commands
- exclamations

1. **Statement** → A sentence which gives us information, e.g. My pencil is blunt.

2. **Question** → A sentence which asks something. It needs a question mark - '?'
e.g. How do you do this?

3. **Command** → This tells someone to do something, e.g. Sit down.

4. **Exclamation** → An exclamation shows that someone feels something strongly. This finishes with an exclamation mark: '!'
e.g. It's not fair!

Interjection → A remark put in when someone is speaking e.g. 'Ah! Oh! Ooh!

NOUN → Nouns are names.

Common nouns are names of things e.g.
girl, city, month, car, house

Proper nouns are names of people, places,
brand names and titles e.g. Mary, John,
America, The Bible, April.

ADJECTIVE → An adjective describes a noun
e.g. pretty : the pretty girl.

VERB → A verb is a being, doing or action
word, e.g. run, smiling, are, is.

ADVERB → An adverb describes a verb - how
something is done e.g. sweetly:
the girl sang sweetly. Most adverbs
end in -ly.

PRONOUN → A pronoun is used in place of a
noun, e.g. I, we, he, she, they, it.
John has a new computer. He likes it.

COLLECTIVE NOUN → A noun given to a group
of things e.g. a herd of cows;
chair, desk, table → they are all furniture.

PREFIX → A prefix is added to the beginning
of a word to change its meaning e.g. disarr
exit, pretend.

SUFFIX → A suffix is added to the end of a word
It can change a noun into an adjective.
e.g. -ish : self → selfish / -able : comfort → comfortable

INFO
SHEET

PARTS OF SPEECH - Nouns, Verbs, Adjectives,
Adverbs

NOUN: An object, thing, place or person or feeling
e.g. ↓ ↓ ↓ ↓ ↓
 chair spider Ireland Cathy sadness

Q. How do I know if it's a noun? A. Can I put 'a' or 'the' in front? (or an)

VERB: A doing, action or being word.
e.g. ↓ ↓ ↓
 jump wave am, is, was, were, are

Q. How do I know if it's a verb? A. Can I do it?
 Can I put 'to' in front?
 or Can I add -ing?

ADJECTIVE: A word that describes a noun.
e.g. The lazy cat. e.g. The flowing river.

ADVERB: A word that describes a verb. It describes how something is done.

e.g. She laughed annoyingly at the joke.

He spoke proudly to the crowd.

Many adverbs end in '-ly'.
Some don't e.g. fast, soon, very, high

Common Suffixes

Noun

tion ness sion

-ice -ence -ance -ment

-ity -ism -ant -ant

Verb

Can you do it? Then it's a verb- if you can put 'to' in front of it or add -ing to it, it's a verb.

[Some words can be nouns, verbs and adjectives, e.g. jump, spring!

Adjectives

-ous -ive -ic

-ine -ical

-able -ible -y

-ar -ious

-en

Adverb

(normally ends in -ly)

e.g happily, softly

if adjectives ends in y, change the y to i and add ly.

Exceptions

Very, soon, fast, high.

[A word can only be used as one part of speech within the context of a sentence].