

1 2 3 4 5 6 7 8 ... **Natural numbers** (positive)

-5 -4 -3 -2 -1 **Negative numbers**
"minus five", "minus four"

-3 -2 -1 0 1 2 3 **Integers**

$\frac{1}{2}$ $\frac{3}{4}$ $\frac{7}{8}$ **Fractions** (rational numbers)
"a half", "three quarters",
"seven eighths"

$\frac{5}{9}$ is 5 divided by 9. 5 is the numerator of the fraction, and 9 is the denominator.

$\frac{9}{5}$ is the reciprocal of $\frac{5}{9}$. It is equal to $1\frac{4}{5}$.

0.5 0.75 0.875 **Decimals**
"nought point five",
"nought point seven five"

0.3333333 Recurring decimal
"nought point three recurring"

3.14159265... π is an **irrational** number because it cannot be represented as a fraction.

Addition: $12 + 3 = 15$
Twelve plus three equals fifteen.
Twelve and three makes fifteen.

Subtraction: $12 - 3 = 9$
Twelve minus three equals nine.
Three from twelve leaves nine.





Multiplication: $12 \times 3 = 36$
Twelve times three equals thirty-six.
Three twelves are thirty-six.

Division: $12 \div 3 = 4$
Twelve divided by three equals four.
Threes into twelve go four.

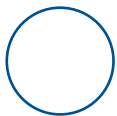
Powers: $3^2 = 3 \times 3 = 9$
Three squared equals nine.
 $3^6 = 3 \times 3 \times 3 \times 3 \times 3 \times 3 = 729$
Three to the power of six is seven hundred and twenty-nine.

Roots: $\sqrt{9} = 3$
The square root of nine is three.
 $\sqrt[6]{729} = 3$
The sixth root of seven hundred and twenty-nine is three.
 $\sqrt{2} = 1.4142...$
The square root of two is one point four one four... (irrational number)

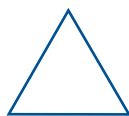
$\sqrt{-1} = i$
The square root of minus one is an **imaginary** number.

 point (no dimensions)  line (one dimension)  plane (two dimensions)  solid (three dimensions)

regular polygons:



circle



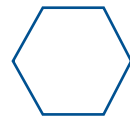
equilateral triangle



square

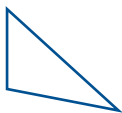


pentagon



hexagon

irregular polygons:



scalene triangle



isosceles triangle



rectangle

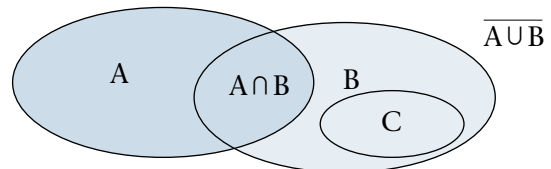


parallelogram



trapezium

A Venn diagram represents sets:



\emptyset Null (empty) set
 $x \in A$ x is a member of set A
 $A \cap B$ the intersection of A and B
 $A \cup B$ the union of A and B
 $C \subset B$ C is a subset of B

Exercises

ANSWER KEY

Exercise 1

2 circumference 3 area 4 radius 5 tangent 6 arc
7 chord

Exercise 2

2 g 3 b 4 e 5 f 6 c 7 a

Exercise 3

2 subset 3 obtuse 4 rotation 5 reciprocal 6 isosceles
7 perpendicular