

Maths Worksheets for Parents

Parents often ask 'how can we help our son/daughter at home?' The following worksheets are designed for parents to aid their child's maths education and perhaps to jog their own memories!

The booklet contains:

1. Dividing rules
2. First twenty Prime Numbers
3. Names of 2D shapes
4. Properties of 2D shapes
5. Area formulae for 2D shapes
6. Fraction, decimal and percentage equivalents
7. Squared and cubed numbers
8. Basic conversions
9. Number sequences to recognise

The sheets cover work from Form 1 to Form 6. Depending on the ability of the child some rules and information can be or will be covered in different year groups. If you are not sure it is best to ask your child's maths teacher which topics are best learnt in your child's particular year.

Not included are such things as a times tables grid or number bonds (pairs of numbers that add up to 10, 20, 30.....100). The sooner your child learns the tables up to 12×12 the better (if your child has the interest and ability then why not go all the way up to 15×15). Number bonds are equally as important to learn as early as possible and practising their quick recall will be helpful.

GOOD LUCK AND THANKS FOR YOUR HELP

Dividing Rules

How do you know which whole numbers can divide into another whole number leaving no remainder?

Can be divided by 2	if it ends in an even number (2, 4, 6, 8 or 0)
Can be divided by 3	if you add up all the digits and they make a multiple of 3
Can be divided by 4	if the last two digits can be divided by 4
Can be divided by 5	if it ends in a 5 or a 0
Can be divided by 6	if the digits added up can be divided by 3 <u>and</u> the original number is an even number
Can be divided by 7	there is a method but it's not very quick!
Can be divided by 8	if 8 can divide into its last three digits
Can be divided by 9	if its digits add up to a multiple of 9
Can be divided by 10	if it ends in a 0
Can be divided by 12	if 4 can divide into the last two digits <u>and</u> its digits add up to a multiple of 3
Can be divided by 25	if it ends in 00, 25, 50 or 75
Can be divided by 50	if it ends in 00 or 50
Can be divided by 100	if it ends in 00
Can be divided by 200	if it ends in 00 and the hundreds column is even

The First Twenty Prime Numbers

A prime number must have only 2 factors, so 1 is not a prime number

2	31
3	37
5	41
7	43
11	47
13	53
17	59
19	61
23	67
29	71

NOW LEARN THE NEXT TEN/TWENTY/THIRTY!!!!

Names and properties of 2D shapes

Triangles

1. Equilateral
 - all sides the same length
 - interior angles = 60°
 - 3 lines of symmetry
 - rotational symmetry order 3
2. Isosceles
 - 2 sides the same length
 - 2 angles the same size
 - 1 line of symmetry
 - no rotational symmetry
3. Scalene
 - all sides different lengths
 - all angles different sizes
4. Right-angled
 - one angle is 90°

Quadrilaterals

1. Square
 - 4 equal sides
 - 4 right angles
 - 4 lines of symmetry
 - rotational symmetry order 4
2. Rectangle
 - 2 pairs of equal sides
 - 2 pairs of equal angles
 - 2 lines of symmetry
 - rotational symmetry order 2
3. Rhombus
 - 4 equal sides (opposite sides parallel)
 - 2 pairs of equal angles
 - 2 lines of symmetry
 - rotational symmetry order 2
4. Parallelogram
 - opposite sides are equal and parallel
 - 2 pairs of equal sides
 - 2 pairs of equal angles
 - 2 lines of symmetry
 - no rotational symmetry
5. Kite
 - 2 pairs of adjacent sides equal
 - 1 pair of equal angles
 - 1 line of symmetry
 - no rotational symmetry
6. Trapezium*
 - 1 pair of parallel sides

* Isosceles Trapezium has 1 pair of equal sides and 1 line of symmetry

Polygons (shapes with 3 or more straight sides)

Pentagon	5 sides
Hexagon	6 sides
Heptagon	7 sides
Octagon	8 sides
Nonagon	9 sides
Decagon	10 sides
Hendecagon	11 sides
Dodecagon	12 sides

Circles

The **diameter** of a circle is twice its radius.
The perimeter of a circle is called its **circumference**.

Areas of shapes

(A stands for Area)

1. Circle

$$A = \pi r^2$$
$$= \pi \times \text{radius} \times \text{radius}$$

(the value of π can be the button on your calculator $\frac{22}{7}$ or 3.14)

2. Triangle

$$A = \frac{1}{2} b \times h$$

$$\text{or } \frac{b \times h}{2} \quad (\text{b} = \text{base, h} = \text{perpendicular height})$$

3. Square, rectangle, rhombus, parallelogram

$$A = b \times h \text{ (base} \times \text{height)}$$

$$\text{or length} \times \text{width}$$

4. Trapezium

$$A = \text{average width} \times \text{vertical height}$$

Fraction, decimal and percentage equivalents

Fraction	Decimal	Percentage
$\frac{1}{4}$	0.25	25%
$\frac{1}{2}$	0.5	50%
$\frac{3}{4}$	0.75	75%
$\frac{1}{5}$	0.2	20%
$\frac{2}{5}$	0.4	40%
$\frac{3}{5}$	0.6	60%
$\frac{4}{5}$	0.8	80%
$\frac{1}{10}$	0.1	10%
$\frac{2}{10}$	0.2	20%
$\frac{3}{10}$	0.3	30%
$\frac{4}{10}$	0.4	40%
$\frac{5}{10}$	0.5	50%
$\frac{6}{10}$	0.6	60%
$\frac{7}{10}$	0.7	70%
$\frac{8}{10}$	0.8	80%
$\frac{9}{10}$	0.9	90%

The first 20 squared numbers and the first 10 cubed numbers

x	x ²	x ³
1	1	1
2	4	8
3	9	27
4	16	64
5	25	125
6	36	216
7	49	343
8	64	512
9	81	729
10	100	1000
11	121	
12	144	
13	169	
14	196	
15	225	
16	256	
17	289	
18	324	
19	361	
20	400	

Basic Conversions to learn

1. Length
1 kilometre = 1000 metres
1 metre = 100 centimetres
1 metre = 1000 millimetres
1 cm = 10 mm
2. Mass
1 tonne = 1000 kilograms
1 kg = 1000 grams
1 gram = 1000 milligrams
3. Capacity
1 litre = 100 centilitres
1 litre = 1000 millilitres
1 cl = 10 ml

Also remember 1 litre = 1000 cm³

Number Sequences

2, 4, 6, 8, 10, etc multiples of 2

3, 6, 9, 12, 15, etc multiples of 3

7, 12, 17, 22, etc multiples of 5 plus 2

(the above are examples of linear sequences because they increase or decrease by the same amount.)

harder sequences...

1, 1, 2, 3, 5, 8, 13, 21.... Fibonacci (add the previous two terms)

1, 4, 9, 16, 25, Squared numbers

1, 8, 27, 64, Cubed numbers

1, 3, 6, 10, 15, Triangular numbers

2, 4, 8, 16, 32, 64, Doubling (starting with 2)

3, 9, 27, 81, 243, Trebling (starting with 3)