

# Mental Maths

## Challenge

### Challenge 1

$2 \times 2 =$

$2 \times 3 =$

$2 \times 4 =$

$2 \times 5 =$

$2 \times 6 =$

$2 \times 7 =$

$2 \times 8 =$

$2 \times 9 =$

$2 \times 10 =$

$2 \times 11 =$

$2 \times 12 =$

$3 \times 2 =$

$3 \times 3 =$

$3 \times 4 =$

$3 \times 5 =$

$3 \times 6 =$

$3 \times 7 =$

$3 \times 8 =$

$3 \times 9 =$

$3 \times 10 =$

$3 \times 11 =$

$3 \times 12 =$

$4 \times 2 =$

$4 \times 3 =$

$4 \times 4 =$

$4 \times 5 =$

$4 \times 6 =$

$4 \times 7 =$

$4 \times 8 =$

$4 \times 9 =$

$4 \times 10 =$

$4 \times 11 =$

$4 \times 12 =$

$5 \times 2 =$

$5 \times 3 =$

$5 \times 4 =$

$5 \times 5 =$

$5 \times 6 =$

$5 \times 7 =$

$5 \times 8 =$

$5 \times 9 =$

$5 \times 10 =$

$5 \times 11 =$

$5 \times 12 =$

$6 \times 2 =$

$6 \times 3 =$

$6 \times 4 =$

$6 \times 5 =$

$6 \times 6 =$

$6 \times 7 =$

$6 \times 8 =$

$6 \times 9 =$

$6 \times 10 =$

$6 \times 11 =$

$6 \times 12 =$

$10 \times 2 =$

$10 \times 3 =$

$10 \times 4 =$

$10 \times 5 =$

$10 \times 6 =$

$10 \times 7 =$

$10 \times 8 =$

$10 \times 9 =$

$10 \times 10 =$

$10 \times 11 =$

$10 \times 12 =$

$\frac{1}{2}$  of 12 =

$\frac{1}{2}$  of 16 =

$\frac{1}{2}$  of 18 =

$\frac{1}{2}$  of 26 =

$\frac{1}{2}$  of 32 =

$\frac{1}{2}$  of 46 =

$\frac{1}{2}$  of 50 =

$\frac{1}{2}$  of 100 =

$\frac{1}{2}$  of 150 =

$\frac{1}{2}$  of 200 =

$\frac{1}{2}$  of 300 =

$\frac{1}{2}$  of 500 =

$\frac{1}{4}$  of 12 =

$\frac{1}{4}$  of 16 =

$\frac{1}{4}$  of 20 =

$\frac{1}{4}$  of 24 =

$\frac{1}{4}$  of 28 =

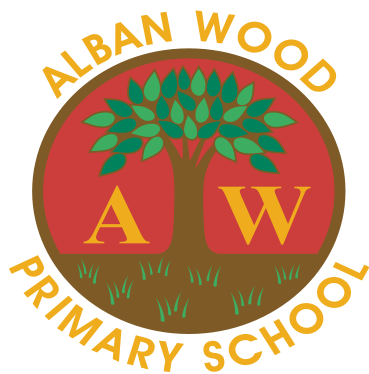
$\frac{1}{4}$  of 32 =

$\frac{1}{4}$  of 36 =

$\frac{1}{4}$  of 40 =

$\frac{1}{4}$  of 100 =

$\frac{1}{4}$  of 200 =



# Mental Maths

## Challenge

### Challenge 2

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Children will be expected to know all the times tables (2x -> 12x)

They will also be expected to know the square numbers which are highlighted on the grid opposite.

$2^2 = \quad 3^2 =$

$4^2 = \quad 5^2 =$

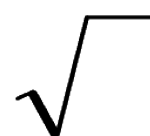
$6^2 = \quad 7^2 =$

$8^2 = \quad 9^2 =$

$10^2 = \quad 11^2 =$

$12^2 =$  In addition,

they will need to know the corresponding square roots.



$\frac{1}{2}$  of 36 =

$\frac{1}{2}$  of 52 =

$\frac{1}{2}$  of 46 =

$\frac{1}{2}$  of 68 =

$\frac{1}{2}$  of 72 =

$\frac{1}{2}$  of 96 =

$\frac{1}{4}$  of 48 =

$\frac{1}{4}$  of 64 =

$\frac{1}{4}$  of 72 =

$\frac{1}{4}$  of 100 =

$\frac{1}{4}$  of 124 =

$\frac{1}{4}$  of 160 =

$\frac{1}{4}$  of 220 =

$\frac{1}{4}$  of 260 =

$\frac{1}{4}$  of 300 =

$\frac{1}{3}$  of 30 =

$\frac{1}{3}$  of 42 =

$\frac{1}{3}$  of 18 =

$\frac{1}{3}$  of 48 =

$\frac{1}{3}$  of 60 =

$\frac{1}{3}$  of 120 =

$\frac{1}{3}$  of 180 =

$\frac{1}{3}$  of 201 =

$\frac{1}{5}$  of 50 =

$\frac{1}{5}$  of 100 =

$\frac{1}{5}$  of 110 =

$\frac{1}{5}$  of 150 =

$\frac{1}{5}$  of 200 =

$\frac{1}{5}$  of 500 =

$\frac{1}{5}$  of 1000 =

10% of 20 =

10% of 50 =

10% of 100 =

10% of 200 =

10% of 150 =

10% of 180 =

25% of 100 =

25% of 200 =

25% of 180 =

25% of 150 =

25% of 500 =

25% of 300 =

25% of 250 =

25% of 500 =

25% of 400 =

50% of 70 =

50% of 25 =

50% of 90 =

50% of 150 =

50% of 101 =

50% of 203 =

75% of 200 =

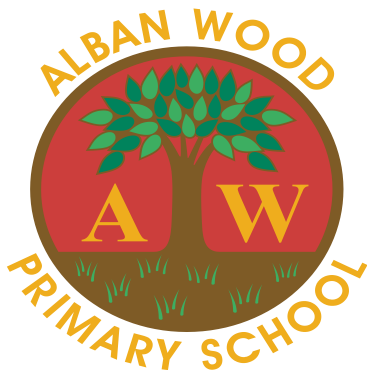
75% of 1000 =

75% of 500 =

75% of 20 =

75% of 50 =

75% of 80 =



# Mental Maths

## Challenge

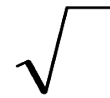
### Challenge 3

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Children will be expected to know all the times tables (2x -> 12x)

They will also be expected to know the square numbers which are highlighted on the grid opposite.

In addition, they will need to know the corresponding square roots.



They will also need to know:

$2^3$     $3^3$     $4^3$     $5^3$     $10^3$

Children will be expected to find these fractions of whole numbers:

$\frac{1}{2}$	$\frac{1}{7}$
$\frac{1}{3}$	$\frac{1}{8}$
$\frac{1}{4}$	$\frac{1}{9}$
$\frac{1}{5}$	$\frac{1}{10}$
$\frac{1}{6}$	$\frac{1}{12}$

$\frac{3}{4}$  of 28 =  
 $\frac{3}{4}$  of 36 =  
 $\frac{3}{4}$  of 48 =  
 $\frac{3}{4}$  of 200 =  
 $\frac{3}{4}$  of 700 =  
 $\frac{2}{3}$  of 90 =  
 $\frac{2}{3}$  of 100 =  
 $\frac{2}{3}$  of 120 =  
 $\frac{2}{3}$  of 450 =  
 $\frac{2}{3}$  of 570 =  
 $\frac{2}{3}$  of 840 =

$\frac{2}{5}$  of 120 =  
 $\frac{2}{5}$  of 700 =  
 $\frac{2}{5}$  of 380 =  
 $\frac{3}{5}$  of 400 =  
 $\frac{3}{5}$  of 60 =  
 $\frac{3}{5}$  of 80 =  
 $\frac{3}{5}$  of 110 =  
 $\frac{2}{7}$  of 49 =  
 $\frac{2}{7}$  of 630 =  
 $\frac{4}{7}$  of 21 =  
 $\frac{4}{7}$  of 84 =

10% of 112 =  
 10% of 70 =  
 10% of 56 =  
 10% of 150 =  
 10% of 1800 =  
 10% of 195 =  
 10% of 839 =  
 1% of 285 =  
 1% of 506 =  
 1% of 30 =  
 1% of 670 =

1% of 357 =  
 1% of 3900 =  
 1% of 7500 =  
 1% of 6 =  
 5% of 280 =  
 5% of 3000 =  
 5% of 2500 =  
 5% of 36 =  
 5% of 68 =  
 5% of 670 =  
 5% of 280 =

25% of 250 =  
 25% of 120 =  
 25% of 24 =  
 50% of 17 =  
 50% of 35 =  
 75% of 250 =  
 75% of 120 =  
 75% of 240 =  
 20% of 170 =  
 2% of 53 =  
 17.5% of 200 =