

## Mental Maths

Find the factors of each of the following using Prime Division using multiplication:-

① 10,

$$1 \times 10 = 10$$

$$2 \times 5 = 10$$

The factors of 10 are  
1, 2, 5, 10

② 25

$$1 \times 25 = 25$$

$$5 \times 5 = 25$$

The factors of 25 are 1, 5, 25

③ 36

$$1 \times 36 = 36$$

$$2 \times 18 = 36$$

$$3 \times 12 = 36$$

$$4 \times 9 = 36$$

The factors of 36 are  
1, 2, 3, 4, 9, 12, 18, 36

④ 44

$$1 \times 44 = 44$$

$$2 \times 22 = 44$$

$$4 \times 11 = 44$$

The factors of 44 are 1, 2, 4, 11, 22, 44

⑤ 56

$$1 \times 56 = 56$$

$$2 \times 28 = 56$$

$$4 \times 14 = 56$$

$$7 \times 8 = 56$$

The factors of 56 are  
1, 2, 4, 7, 8, 14, 28, 56

⑥ 72

$$1 \times 72 = 72$$

$$2 \times 36 = 72$$

$$3 \times 24 = 72$$

$$4 \times 18 = 72$$

$$6 \times 12 = 72$$

$$8 \times 9 = 72$$

The factors of 72 are 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72

\*) Find the factors of 18 using division method.

$$\begin{array}{r} 18 \\ 1 \overline{) 18} \\ - 18 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 9 \\ 2 \overline{) 18} \\ - 18 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 6 \\ 3 \overline{) 18} \\ - 18 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 4 \\ 4 \overline{) 18} \\ - 16 \\ \hline 2 \end{array}$$

The factors of 18 are 1, 2, 3, 6, 9 and 18.

\* Find out if 4 is a factor of 48.

$$\begin{array}{r} 12 \\ 4 \overline{) 48} \\ - 4 \downarrow \\ \hline 08 \\ - 8 \\ \hline 0 \end{array}$$

48 is exactly divisible by 4, so 4 is a factor of 48.

Notes:-

When a number is divisible by another number exactly (without leaving a remainder), the divisor is said to be a factor of the dividend.

## Exercise - 5.3

A. The numbers in columns A and C are the factors of the numbers in column B. Match and colour the circles in the same colour.  
⇒ Do this question by yourself.

B) Find factors using multiplication.

1) 15

$$1 \times 15 = 15$$

$$3 \times 5 = 15$$

Ans:- The factors of 15 are 1, 3, 5, 15

2) 16

$$\Rightarrow 1 \times 16 = 16$$

$$2 \times 8 = 16$$

$$4 \times 4 = 16$$

Ans:- The factors of 16 are 1, 2, 4, 8, 16

3) 35

$$\Rightarrow 1 \times 35 = 35$$

$$5 \times 7 = 35$$

Ans:- The factors of 35 are 1, 5, 7, 35

4) 36

$$1 \times 36 = 36$$

$$2 \times 18 = 36$$

$$3 \times 12 = 36$$

$$4 \times 9 = 36$$

$$6 \times 6 = 36$$

Ans:- The factors of 36 are 1, 2, 3, 4, 6, 9, 12, 18, 36.

5) 23

$$1 \times 23 = 23$$

Ans:- The factors of 23 are 1, 23.

6) 81

$$1 \times 81 = 81$$

$$3 \times 27 = 81$$

$$9 \times 9 = 81.$$

Ans:- The factors of 81 are 1, 3, 9, 27 & 81.

2) Find the factors using division.

1. 18

$$\begin{array}{r} 18 \\ 1 \overline{) 18} \\ \underline{- 18} \\ 0 \end{array}$$

$$\begin{array}{r} 9 \\ 2 \overline{) 18} \\ \underline{- 18} \\ 0 \end{array}$$

$$\begin{array}{r} 6 \\ 3 \overline{) 18} \\ \underline{- 18} \\ 0 \end{array}$$

$$\begin{array}{r} 4 \\ 4 \overline{) 18} \\ \underline{- 16} \\ 2 \end{array}$$

Ans:- The factors of 18 are 1, 2, 3, 6, 9,

18.  $18 \div 4$  leaves a remainder, so 4 is not a factor of 18.

$$\begin{array}{r}
 25 \\
 \underline{25} \\
 1 \overline{) 25} \\
 \underline{- 25} \\
 \hline
 0 \\
 \\
 \begin{array}{r}
 5 \\
 \underline{5} \\
 5 \overline{) 25} \\
 \underline{- 25} \\
 \hline
 0
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 12 \\
 \underline{24} \\
 2 \overline{) 25} \\
 \underline{- 24} \\
 \hline
 1
 \end{array}$$

$$\begin{array}{r}
 8 \\
 \underline{24} \\
 3 \overline{) 25} \\
 \underline{- 24} \\
 \hline
 1
 \end{array}$$

$$\begin{array}{r}
 6 \\
 \underline{24} \\
 4 \overline{) 25} \\
 \underline{- 24} \\
 \hline
 1
 \end{array}$$

The factors of 25 are 1, 5

Do the rest questions by same method.

D) check if the first number is a factor of the second number. Tick (✓) if yes or cross out if not.

1) 5, 80

$$\begin{array}{r}
 16 \\
 \underline{80} \\
 5 \overline{) 80} \\
 \underline{- 5} \\
 30 \\
 \underline{30} \\
 \hline
 0
 \end{array}$$

2) 8, 140

$$\begin{array}{r}
 17 \\
 \underline{140} \\
 8 \overline{) 140} \\
 \underline{- 8} \\
 60 \\
 \underline{- 56} \\
 \hline
 4
 \end{array}$$

Do the rest questions by same method.

3) Check if the second number is a factor of the first number. Tick (✓) if yes or cross out (✗) if not.

1) 75, 7  ✗

$$\begin{array}{r} 10 \\ 7 \overline{) 75} \\ \underline{70} \\ 5 \end{array}$$

2) 99, 11  ✓

$$\begin{array}{r} 9 \\ 11 \overline{) 99} \\ \underline{-99} \\ 0 \end{array}$$

Solve the rest question by same method