

Factors and multiples

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Worked example

List the arrays that form:

20

50

Your turn

List the arrays that form:

40

$$1 \times 40$$

$$40 \times 1$$

$$2 \times 20$$

$$20 \times 2$$

$$4 \times 10$$

$$10 \times 4$$

$$5 \times 8$$

$$8 \times 5$$

Worked example

List the factors of:

27

28

29

Your turn

List the factors of:

35

1, 5, 7, 35

36

1, 2, 3, 4, 6, 9, 12, 18, 36

37

1, 37

Worked example

List the factors of:

2

3

5

7

11

1

Your turn

List the factors of:

13 1, 13

17 1, 17

19 1, 19

23 1, 23

29 1, 29

1 1 only. NOT prime

Worked example

List the factors of:

1

4

9

16

Your turn

List the factors of:

25

1, 5, 25

Worked example

List the multiples of:

3

5

10

1

Your turn

List the multiples of:

8

8, 16, 24, 32, 40, ...

Worked example

List the factors and multiples of:

3

5

10

1

Your turn

List the factors and multiples of:

8

Factors: 1, 2, 4, 8

Multiples: 8, 16, 24, 32, 40, ...

Worked example

Express 24 as a product of prime factors.

Express 72 as a product of prime factors.

Your turn

Express 48 as a product of prime factors.

$$2^4 \times 3$$

Worked example

Express 240 as a product of prime factors.

Express 7200 as a product of prime factors.

Your turn

Express 480 as a product of prime factors.

$$2^5 \times 3 \times 5$$

Worked example

Write the prime factorisation of 48

Write the prime factorisation of 24

Your turn

Write the prime factorisation of 24

$$24 = 2^3 \times 3$$

Worked example

Find the highest common factor (HCF) of:

20 and 8

24 and 48

Your turn

Find the highest common factor (HCF) of:

18 and 54

18

Worked example

Find the lowest common multiple (LCM) of:

20 and 8

24 and 48

Your turn

Find the lowest common multiple (LCM) of:

18 and 54

54

Worked example

Find the HCF and LCM of 15 and 24

Your turn

Find the HCF and LCM of 18 and 30

$$\text{HCF} = 6$$

$$\text{LCM} = 90$$

Worked example

Find the HCF and LCM of A and B :

$$A = 2^5 \times 3 \times 5$$

$$B = 2^3 \times 3^2 \times 7$$

Your turn

Find the HCF and LCM of A and B :

$$A = 2^3 \times 3^2 \times 5$$

$$B = 2^4 \times 3 \times 7$$

$$\text{HCF} = 24$$

$$\text{LCM} = 5040$$