

HCF: the Ladder Method

ANSWERS

1

Find the HCF of 20 and 30.

2	20	30
5	10	15
	2	3

$$\text{HCF} = 2 \times 5 = 10$$

2

Find the HCF of 12 and 20.

2	12	20
2	6	10
	3	5

$$\text{HCF} = 2 \times 2 = 4$$

3

Find the HCF of 18 and 27.

3	18	27
3	6	9
	2	3

$$\text{HCF} = 3 \times 3 = 9$$

4

Find the HCF of 12 and 18.

2	12	18
3	6	9
	2	3

$$\text{HCF} = 2 \times 3 = 6$$

5

Find the HCF of 24 and 30.

2	24	30
3	12	15
	4	5

$$\text{HCF} = 2 \times 3 = 6$$

6

Find the HCF of 30 and 50.

2	30	50
5	15	25
	3	5

$$\text{HCF} = 2 \times 5 = 10$$

7

A teacher has 16 pens and 20 pencils. She puts them into packs. Every pack is the same. Nothing is left over. What is the most packs she can make?

2	16	20
2	8	10
	4	5

$$\text{HCF} = 2 \times 2 = 4 \text{ packs}$$

8

Fill in the missing numbers. Find the HCF of 20 and 36.

2	20	36
2	10	18
	5	9

$$\text{HCF} = 2 \times 2 = 4$$

HCF: the Ladder Method *further practice*

ANSWERS

9

Find the HCF of 30 and 42.

2	30	42
3	15	21
	5	7

HCF = 6

10

Find the HCF of 24 and 40.

2	24	40
2	12	20
2	6	10
	3	5

HCF = 8

11

Find the HCF of 15 and 30.

3	15	30
5	5	10
	1	2

HCF = 15

12

A 20 m rope and a 50 m rope are cut into pieces. Every piece is the same length. Nothing is left over. What is the longest a piece can be?

2	20	50
5	10	25
	2	5

HCF = 10 m

13

Find the HCF of 36 and 48.

2	36	48
2	18	24
3	9	12
	3	4

HCF 12

14

There are 32 lemon sweets and 40 orange sweets. They go into bags. Every bag is the same. Nothing is left over. What is the most bags?

2	32	40
2	16	20
2	8	10
	4	5

Answer 8 bags

15

Which pair has the bigger HCF: 12 and 42, or 28 and 40?

2	12	42
3	6	21
	2	7
2	28	40
2	14	20
	7	10

Answer 12 and 42, HCF 6

16

Here is Sam's ladder for 8 and 20. Sam says the HCF is 2. What has Sam done wrong?

2	8	20
	4	10

Sam is wrong because
2 is a factor of 4 and 10.

Sam stopped too soon.

HCF 4