27.4.2020

Can I find multiples and common multiples?

A **multiple** is a number found within the times tables (can be divided by another number without a remainder).

Multiples of 2 are: 2, 4, 6, 8, 10, 12 and so on

The 8th multiple of 2 is 16

A **common multiple** is a multiple that 2 numbers have *in common*. To find common multiples, write out the multiples of both numbers.

Multiples of 3: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30

Multiples of 5: 5, 10, 15, 20, 25, 30

Look for the number which appear in both lists – these will be the common multiples.

15 and 30 appear in both lists, so these are common multiples of 3 and 5. Can you find any more common multiples of 3 and 5? Continue the list of multiples for each number to help you.

The **lowest common multiple (LCM)** of two (or more) numbers is the lowest number that appears in the multiple lists.

The lowest common multiple of 3 and 5 is therefore 15 as that is the lowest number that appears in both lists.

Find the lowest common multiple of 3, 5 and 6:

Multiples of 3: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30

Multiples of 5: 5, 10, 15, 20, 25, 30

Multiples of 6: 6, 12, 18, 24, 30

The lowest number that appears in all 3 lists is 30, so 30 is the lowest common multiple of 3, 5 and 6.

Complete the questions on the next page – you can just write your answers on a piece of paper (no need to print this out).

Choose your level of challenge, just as you would in class – or have a go at it all!

More help here: <https://www.bbc.co.uk/bitesize/articles/zfchpg8> (including a Supermovers Dance Routine!)

Marvellous

1. What is the 9th multiple of 3?
2. What is the 5th multiple of 9?
3. What is the 12th multiple of 7?
4. What is the 6th multiple of 11?
5. What is the 7th multiple of 4?
6. Find the first 3 common multiples of 2 and 3.
7. Find the first 2 common multiples of 4 and 6.
8. What is the lowest common multiple of 3 and 4?

Answers on following page …

35

2

8

Multiples of 5

Multiples of 2

Magnificent

1. Find the first 2 common multiples of 5 and 8.
2. What is the lowest common multiple (LCM) of 5 and 6?
3. What is the LCM of 2 and 8?
4. What is the LCM of 3 and 11?
5. What is the LCM of 9 and 4?
6. What is the LCM of 6 and 7?
7. What is the LCM of 4, 5 and 6?
8. What is the LCM of 3, 6 and 8?

Mind-blowing

1. Draw some Venn diagrams like the one below to organise the following sets of numbers
2. Sort the number below into the correct sections:

2, 5, 10, 3, 20, 15, 17, 25, 8, 6

1. Draw a Venn diagram to organise the following set of numbers into multiples of 3 and 7.

3, 21, 5, 42, 7, 28, 25, 35, 15, 12, 63

Use your diagram to list the common multiples of 3 and 7 in **ascending** order. Do you notice a pattern? Use this to predict the next 2 common multiples.

1. Draw a Venn diagram to organise the following set of numbers into multiples of 6 and 8.

8, 24, 9, 12, 48, 16, 30, 26, 42, 6

1. Look at the diagram below. See if you can work out what the missing labels for each group of numbers should be, then use any leftover numbers to complete the diagram.

4, 42, 3, 70, 12, 49, 11, 77

7

14

28

Answers

Fluent in Five: 1) 3.4 2) 1319 3) 20 4) 259 5) 90

Marvellous: 1) 27 2) 45 3) 84 4) 66 5) 28 6) 6, 12, 18 7) 12, 24 8) 12

Magnificent: 1) 40, 80 2) 30 3) 8 4) 33 5) 36 6) 42 7) 60 8) 24

Mind-blowing: 1b) Common multiples of 3 and 7 in ascending order: 21, 42, 63 (next 2: 84 and 105)

 2) Labels: Multiples of 2 and Multiples of 7