

## Week 9

### This week in a nutshell:

Q1 and Q5 can be linked by asking students to find the mode on each bar chart. For Q2, a listing multiples method will work well here as all the questions involve relatively small numbers. However, students could be additionally shown the Venn Diagram method. Students may need examples and support for Q3 as methods in algebra can take time to be consolidated. Q4 offers a real life application of percentage decrease which can help engage students in this topic.

**Question 1:** Finding the mode

**Question 2:** Lowest common multiple (LCM)

**Question 3:** Solving equations

**Question 4:** Percentage reduction

**Question 5:** Using bar charts

The questions aim to develop and deepen understanding over the week. Due to the necessity of the topics covered this week, there is an emphasis on the interchangeability of command words, and language flexibility. It may be worth taking some extra time this week to make sure your students are developing their mathematical literacy.

### This week's ideas for class discussion include:

**Question 1: Finding the mode**

- Each of these datasets has a mode of 5. Discuss if the mode represents the average well in each case.  
(a) 4,5,5,5,5,6,7 (b) 0,1,2,3,4,5,5 (c) 5,5,5,30,40,55,67 (d) 2,2,2,5,5,5,5 (e) -11,0,5,5,13,27,41

**Question 2: Lowest common multiple (LCM)**

- The teacher says "The lowest common multiple of 3 and 7 is 21. What is the LCM of 9 and 12?" Simon says "3 times 7 is 21. So to find the LCM of 9 and 12 you just do 9 times 12, which is 108". Is Simon correct? Discuss different methods for finding the LCM.

**Question 3: Solving equations**

- The teacher writes  $12x - 5 = -1$  on the board. Abi says  $x = 3$ , Bilal says  $x = \frac{1}{3}$  & Chrissy says  $x = -\frac{1}{2}$ . What is the fastest way to check who is correct? What mistakes have the other two students made?

**Question 4: Percentage reduction**

- A £50 coat is put in the sale for 10% off. A week later the shop has a sign saying "Further reductions! An extra 10% off all reduced items". Kamil tries to buy the coat for £40 but the shop assistant insists that it costs £40.50. Who do you think is correct?

**Question 5: Using bar charts**

- What does the word frequency mean? How can you identify the mode on a bar chart?

## Week 9: Day 1

- 1) Find the mode of this dataset:

2, 4, 7, 8, 8, 9

- 2) Find the lowest common multiple of 3 and 5

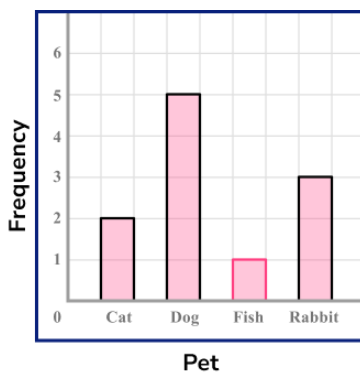
- 3) Solve for  $x$

$$8x = 72$$

- 4) A shop sells hoodies for £25. The shop then has the offer shown below. Calculate the sale price of a hoodie.



- 5) From the bar chart, which animal is the most popular pet?



## Week 9: Day 1 Answers

- 1) Find the mode of this dataset: 8

2, 4, 7, 8, 8, 9

- 2) Find the lowest common multiple of 3 and 5 15

- 3) Solve for  $x$

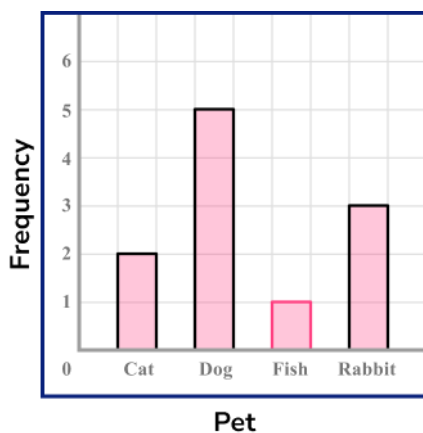
$$8x = 72$$

$$x = 9$$

- 4) A shop sells hoodies for £25. The shop then has the offer shown below. Calculate the sale price of a hoodie. £22.50



- 5) From the bar chart, which animal is the most popular pet? Dog



## Week 9: Day 2

- 1) Find the mode of this dataset:

30, 13, 19, 28, 17, 13

- 2) Find the lowest common multiple of 6 and 8

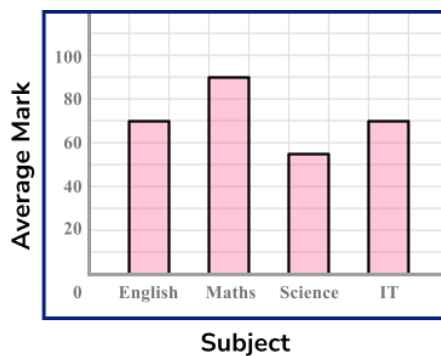
- 3) Solve for  $x$

$$13 - 2x = 7$$

- 4) A shop sells pairs of trainers for £70. The shop then has the offer shown below. Calculate the sale price of a pair of trainers.



- 5) From the bar chart, which subject has the lowest average mark?



## Week 9: Day 2 Answers

- 1) Find the mode of this dataset: 13

30, 13, 19, 28, 17, 13

- 2) Find the lowest common multiple of 6 and 8 24

- 3) Solve for  $x$

$$13 - 2x = 7$$

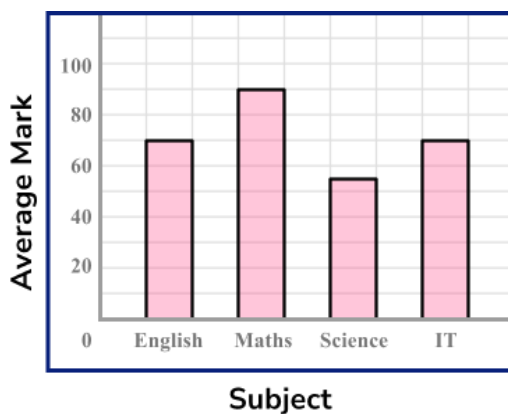
$$x = 3$$

- 4) A shop sells pairs of trainers for £70. The shop then has the offer shown below. Calculate the sale price of a pair of trainers. £52.50



- 5) From the bar chart, which subject has the lowest average mark?

Science



## Week 9: Day 3

- 1) Find the mode of this dataset:

3, 4, 4, 5, 9, 9, 10, 11

- 2) Find the lowest common multiple of 12 and 16

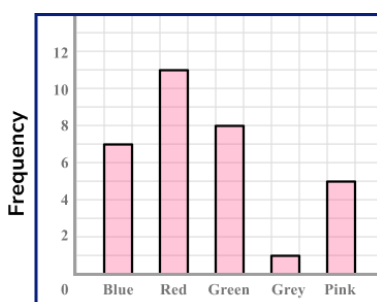
- 3) Solve for  $x$

$$\frac{3x}{2} = 9$$

- 4) A shop sells beanies for £15. The shop then has the offer shown below. Calculate the sale price of a beanie.



- 5) The bar chart shows the results of a survey on favourite colours. How many people chose green or grey?



## Week 9: Day 3 Answers

- 1) Find the mode of this dataset: 4 and 9

3, 4, 4, 5, 9, 9, 10, 11

- 2) Find the lowest common multiple of 12 and 16 48

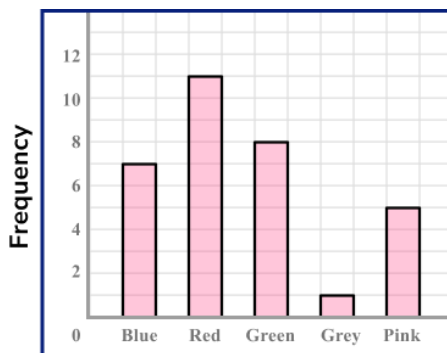
- 3) Solve for  $x$

$$\frac{3x}{2} = 9 \quad x = 6$$

- 4) A shop sells beanies for £15. The shop then has the offer shown below. Calculate the sale price of a beanie. £10.50



- 5) The bar chart shows the results of a survey on favourite colours. How many people chose green or grey? 9



## Week 9: Day 4

- 1) Find the mode of this dataset:

0, 6, -2, 0, 2, -5

- 2) Find the lowest common multiple of 9 and 15

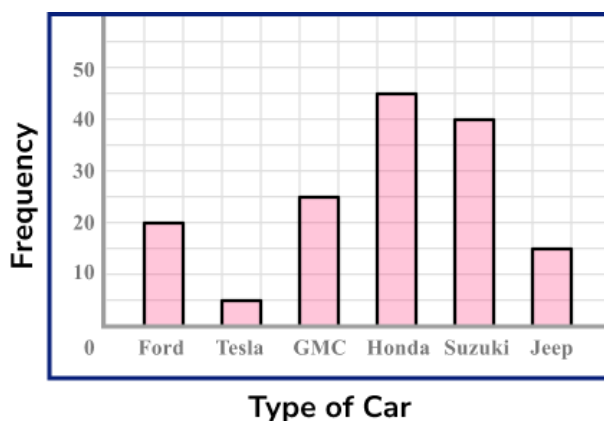
- 3) Solve for  $x$

$$\frac{45}{x} = 5$$

- 4) A shop sells watches for £180. The shop then has the offer shown below. Calculate the sale price of a watch.



- 5) Using the bar chart, how many cars were surveyed in total?





## Week 9: Day 4 Answers

- 1) Find the mode of this dataset: 0

0, 6, -2, 0, 2, -5

- 2) Find the lowest common multiple of 9 and 15 45

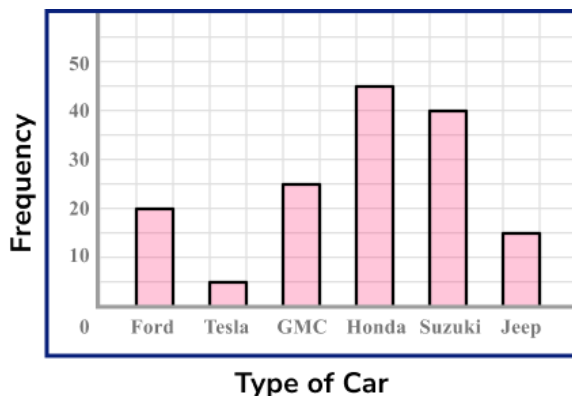
- 3) Solve for  $x$

$$\frac{45}{x} = 5 \quad x = 9$$

- 4) A shop sells watches for £180. The shop then has the offer shown below. Calculate the sale price of a watch. £153



- 5) Using the bar chart, how many cars were surveyed in total? 150



## Week 9: Day 5

- 1) Find the mode of this dataset:

2, 2, 3, 3, 4, 4, 5, 5

- 2) Find the lowest common multiple of 4, 6 and 10

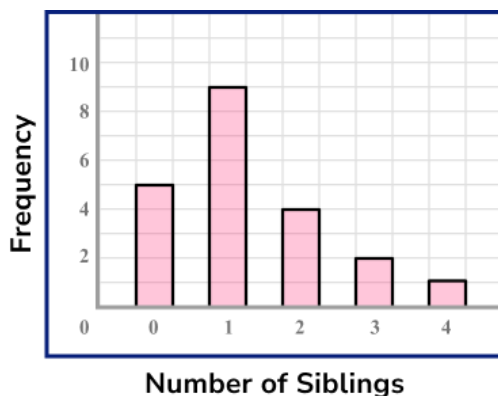
- 3) Solve for  $x$

$$6x + 9 = 12$$

- 4) A shop sells TVs for £650. The shop then has the offer shown below. Calculate the sale price of a TV.



- 5) How many people had more than one sibling?



## Week 9: Day 5 Answers

- 1) Find the mode of this dataset: no mode

2, 2, 3, 3, 4, 4, 5, 5

- 2) Find the lowest common multiple of 4, 6 and 10 60

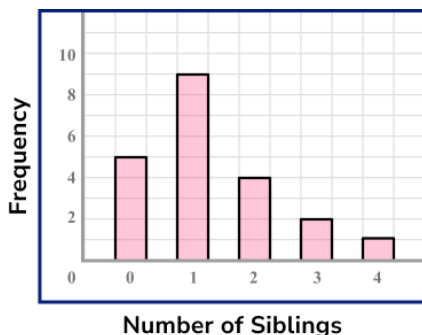
- 3) Solve for  $x$

$$6x + 9 = 12$$
$$x = 0.5$$

- 4) A shop sells TVs for £650. The shop then has the offer shown below. Calculate the sale price of a TV. £422.50



- 5) How many people had more than one sibling? 7



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