

## Week 7

### This week in a nutshell:

Here we see topics that require use of definitions (statistical measures) so be sure to promote mathematical literacy for this. Imperative skills from proportion and linear functions are covered.

Question 1: **Listing outcomes**

Question 2: **Comparing quantities using ratio**

Question 3: **Mode and median**

Question 4:  $y = mx + c$

Question 5: **Two-way tables**

You may wish to discuss strategies for listing outcomes and the completion of two-way tables; talking about the efficiency of these methods, along with the logical aspects of these topics can be very rewarding for students.

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

Question 1: **Listing outcomes**

- How do you know you have ALL outcomes listed?
- How important is the context of the situation for the outcomes you are listing?

Question 2: **Comparing quantities using ratio**

- Why does the order ratios are given in matter? Can you give an example?

Question 3: **Mode and median**

- How do you remember the method for finding mode and median?

Question 4:  $y = mx + c$

- How does the use of the equation of a straight line rely on other skills you have learnt studying algebra?

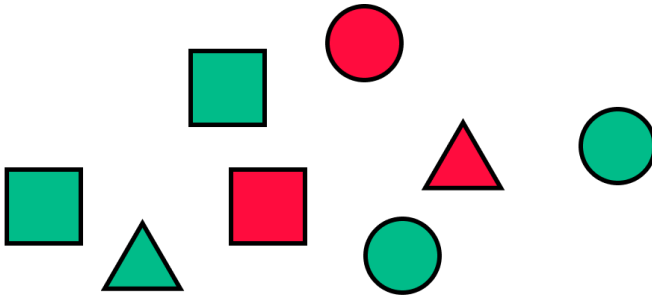
Question 5: **Two-way tables**

- What strategies can you suggest for completing a two-way table efficiently?

## Week 7: Day 1

1) A coin is thrown twice. List the possible outcomes.

2) What is the ratio of red to green?



3) 7, 10, 12, 14, 14.

Median=

Mode=

4) For the straight line with equation  $y = 3x + 7$  state:

a) The gradient

b) The  $y$ -intercept

5) Complete the two-way table showing language studied:

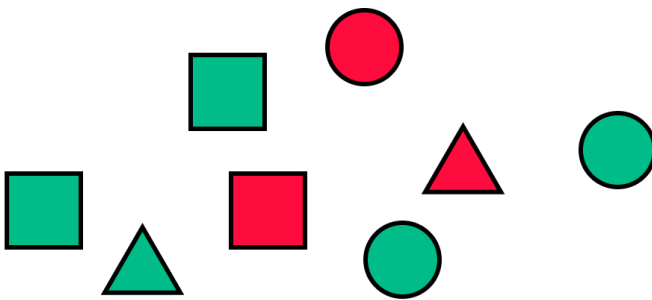
	French	German	Total
Year 7	47		99
Year 8	32	65	
Total			

## Week 7: Day 1 Answers

- 1) A coin is thrown twice. List the possible outcomes.

HH, HT, TH, TT

- 2) What is the ratio of red to green?



3:5

- 3) 7, 10, 12, 14, 14.

Median= 12

Mode= 14

- 4) For the straight line with equation  $y = 3x + 7$  state:

a) The gradient 3

b) The  $y$ -intercept (0, 7)

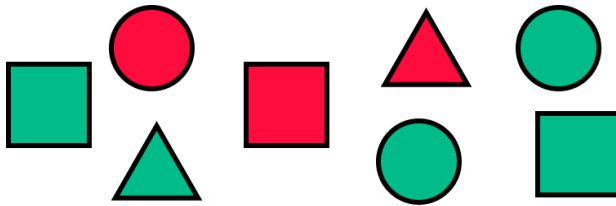
- 5) Complete the two-way table showing language studied:

	French	German	Total
Year 7	47	52	99
Year 8	32	65	97
Total	79	117	196

## Week 7: Day 2

- 1) A 6-sided dice is thrown and a coin is tossed. List the possible outcomes.

- 2) What is the ratio of circles to triangles to squares?



- 3) 6, 7, 7, 9, 10, 15

Median=

Mode=

- 4) For the straight line with equation  $2y = 6x - 11$  state:

- a) The gradient  
b) The  $y$ -intercept

- 5) Complete the two-way table showing favourite football team:

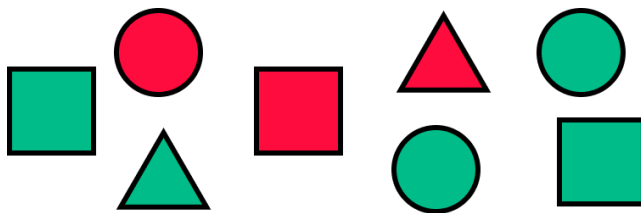
	Lazio	Juventus	Total
Male	32	17	
Female			
Total	64		100

## Week 7: Day 2 Answers

- 1) A 6-sided dice is thrown and a coin is tossed. List the possible outcomes.

1H, 2H, 3H, 4H, 5H, 6H,  
1T, 2T, 3T, 4T, 5T, 6T

- 2) What is the ratio of circles to triangles to squares?



3:2:3

- 3) 6, 7, 7, 9, 10, 15

Median= 8

Mode= 7

- 4) For the straight line with equation  $2y = 6x - 11$  state:

a) The gradient 3

b) The  $y$ -intercept (0, -5.5)

- 5) Complete the two-way table showing favourite football team:

	Lazio	Juventus	Total
Male	32	17	49
Female	32	19	51
Total	64	36	100

## Week 7: Day 3

1) Three coins are tossed. List the possible outcomes.

2) Purple paint is made from 3L of blue paint and 6L of red paint. What is the ratio of red paint to blue paint in its simplest form?

3) 8, 8, 10, 12, 13, 17

Median=

Mode=

4) For the straight line with equation  $y + x = 5$  state:

a) The gradient

b) The  $y$ -intercept

5) Complete the two-way table showing eye colour:

	Blue	Brown	Green	Total
Female		12		30
Male	16			
Total	23	21		75

## Week 7: Day 3 Answers

- 1) Three coins are tossed. List the possible outcomes.

HHH, HHT, HTH, THH,  
TTT, TTH, THT, HTT

- 2) Purple paint is made from 3L of blue paint and 6L of red paint. What is the ratio of red paint to blue paint in its simplest form?

2:1

- 3) 8, 8, 10, 12, 13, 17

Median= 11

Mode= 8

- 4) For the straight line with equation  $y + x = 5$  state:

a) The gradient -1

b) The y-intercept (0, 5)

- 5) Complete the two-way table showing eye colour:

	Blue	Brown	Green	Total
Female	7	12	11	30
Male	16	9	20	45
Total	23	21	31	75

## Week 7: Day 4

- 1) You can have two courses from a menu of starters, mains, and desserts.  
List the possible combinations.

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- 2) Tropical juice contains 500ml of orange and 250ml of lemon. What is the ratio of orange to lemon in its simplest form?

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- 3) 8, 8, 9, 12, 14, 14  
  
Median=  
Mode=

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- 4) For the straight line with equation  $3y - 3x + 12 = 0$  state:
  - a) The gradient
  - b) The  $y$ -intercept

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- 5) Complete the two-way table showing film preference:

	Disney	Pixar	Dream Works	Total
Child	12			66
Adult		22	11	
Total	45	38		



## Week 7: Day 4 Answers

- 1) You can have two courses from a menu of starters, mains, and desserts.  
List the possible combinations.

**S+M, S+D, M+D**

- 2) Tropical juice contains 500ml of orange and 250ml of lemon. What is the ratio of orange to lemon in its simplest form?

**2:1**

- 3) **8, 8, 9, 12, 14, 14**

Median= **10.5**

Mode= **8 and 14**

- 4) For the straight line with equation  $3y - 3x + 12 = 0$  state:

a) The gradient **1**

b) The y-intercept **(0, -4)**

- 5) Complete the two-way table showing film preference:

	Disney	Pixar	Dream Works	Total
Child	12	<b>16</b>	<b>38</b>	66
Adult	<b>33</b>	22	11	<b>66</b>
Total	45	38	<b>49</b>	<b>132</b>

## Week 7: Day 5

- 1) Two scoops of ice-cream are chosen from mint, chocolate, and vanilla. List the possible combinations..

- 
- 2) Green paint is made from 2.5L of blue paint and 1.5L of yellow paint. What is the ratio of yellow paint to blue paint in its simplest form, using integers?

- 
- 3) 4, 10, 11, 12, 19, 21

Median=

Mode=

- 
- 4) For the straight line with equation  $8 = 2x + y$  state:
- a) The gradient
  - b) The  $y$ -intercept

- 
- 5) A total of 101 year 10 and 11 students were asked whether they liked maths or science best. 23 year 10 students said they liked maths. 42 year 11 students said they liked science. 45 year 11 students were asked in total. Create a two way table to show the number of year 10 and 11 students who chose each subject.

## Week 7: Day 5 Answers

- 1) Two scoops of ice-cream are chosen from mint, chocolate, and vanilla. List the possible combinations..

MM, MC, MV, CC, CV, VV

- 2) Green paint is made from 2.5L of blue paint and 1.5L of yellow paint. What is the ratio of yellow paint to blue paint in its simplest form, using integers?

3:5

- 3) 4, 10, 11, 12, 19, 21

Median= 11.5

Mode= no mode

- 4) For the straight line with equation  $8 = 2x + y$  state:

a) The gradient -2

b) The y-intercept (0, 8)

5)

	Maths	Science	Total
Year 10	23	33	56
Year 11	3	42	45
Total	26	75	101

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