Day 1
Probability

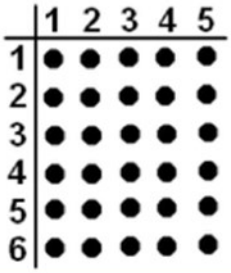
Question 1 – Foundation & Higher Tier GCSE

This probability space diagram shows all the possible outcomes when two spinners (one 5-sided and one 6-sided) are spun.

The spinners are both spun once.

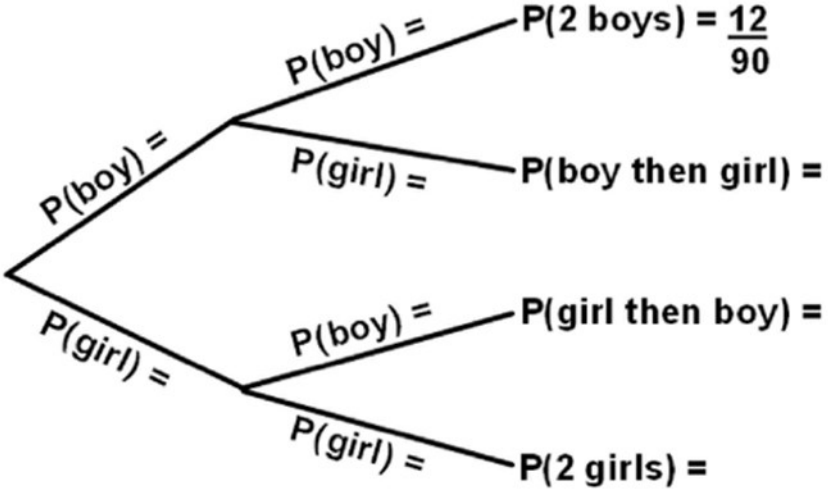
The score on the spinners are added together.

Calculate the probability that the total score is greater than 7.



Question 2 – Higher Tier only

This incomplete probability tree diagram represents the outcomes when two children are randomly picked for a rewards trip. What is the probability that one boy and one girl are picked?



Day 2
Number

Question 1 – Foundation & Higher Tier GCSE

You are given that: **4212 = 54 x 78**

Use the above to calculate:

(a) 5400 x 0.78 = ?

(b) 42120 ÷ 7.8 = ?

Question 2 – Higher Tier GCSE only

Evaluate:

(a) $64^{\frac{1}{3}} = ?$

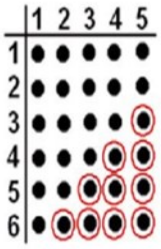
(b) $64^{-1} = ?$

(c) $64^{-\frac{1}{2}} = ?$

(d) $64^{\frac{5}{6}} = ?$

Yesterday's solutions

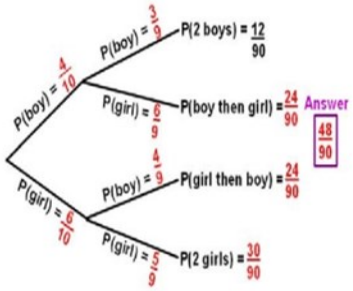
Question 1



Answer:

$\frac{10}{30} = \frac{1}{3}$

Question 2



Day 3
Algebra, Geometry & Measures

Question 1 – Foundation & Higher Tier GCSE

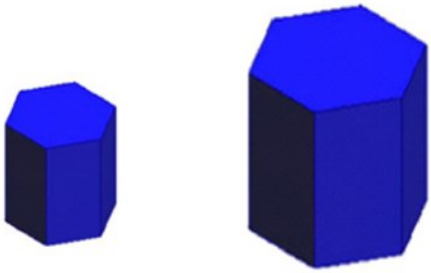
This is a parallelogram.

Form an equation in terms of y, solve it and use your solution to find the size of each angle.

Question 2 – Higher Tier GCSE only

These two prisms are similar.

If the height and volume of the largest prism are 12cm and 1242cm^3 and the volume of the smallest prism is 46cm^3, calculate the height of the smallest prism.



Yesterday's solutions

Question 1

(a) 5400 x 0.78 = 4212

(b) 42120 ÷ 7.8 = 5400

Question 2

(a) $64^{1/3} = 4$

(b) $64^{-1} = 1/64$

(c) $64^{-1/2} = 1/8$

(d) $64^{5/6} = 32$

Day 4
Statistics & Number

Question 1 – Foundation & Higher GCSE

The length of some leaves in a forest were measured.

This stem and leaf diagram shows the data collected.

Calculate the:

(a) Modal length

(b) Median length

(c) Range of lengths

Key: 7. | 6 represents 7.6cm

3.	2	3	4	4	
4.	0	0	0	5	7
5.	7	8	9		
6.	3	7			
7.	6				

Question 2 – Higher Tier GCSE only

p = 400 (rounded off to 1 significant figure)

q = 40 (rounded off to 2 significant figures)

Calculate the minimum value of p ÷ q

Yesterday's solutions

Question 1

$2y + 3y + 25 = 180 \rightarrow 5y + 25 = 180$

$\rightarrow 5y = 155 \rightarrow y = 31$

$\therefore$ Angles = 62^0, 118^0, 62^0, 118^0

Question 2

Scale factor of volumes = 1242 ÷ 46 = 27

$\therefore$ Scale factor of heights = 3

$\therefore$ Height of smallest prism

= 12 ÷ 3 = 4cm

Day 5
Number & Algebra

Question 1 – Foundation & Higher Tier GCSE

Complete this table:

Fraction	Decimal	Percentage
$\frac{2}{5}$		
		55%
	0.7	
		3%
$\frac{21}{25}$		

Question 2 – Foundation & Higher Tier GCSE

Solve these simultaneous equations:

$$6a - 5c = 32$$
$$2a + 3c = 6$$

Question 1

(a) Modal length = 4.0cm
(b) Median length = 4.5cm
(c) Range of lengths = 7.6 – 3.2 = 4.4cm

Yesterday's solutions

Question 2

$350 \leq p < 450$
$39.5 \leq q < 40.5$
Minimum $p \div q = 350 \div 40.5 = 8.64198$