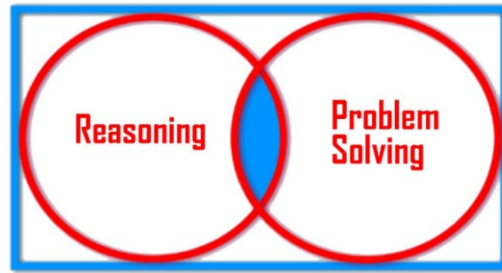


GCSE Foundation (5 – 1)



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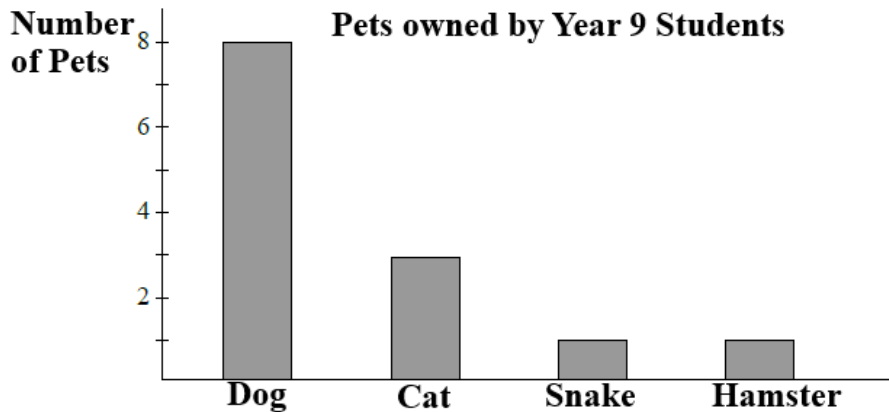
Mathematical Reasoning Questions

(Probability) – Set 1

**The marks shown are for guidance purposes only
[Total marks: 22 Marks]**

1	<p>What is the probability of choosing a prime number from the set $22 < 2n < 30$</p> <p>a) 30%</p> <p>b) 33%</p> <p>c) $\frac{2}{7}$</p> <p>d) $\frac{100}{3}$ %</p> <p style="text-align: right;">[3Marks]</p>
2	<p>Tamara chooses two numbers from the list $\{-5, -1, 0, 2, 3, 6\}$ What is the probability that, the product of the two numbers is zero? Choose only one answer</p> <p>a) $\frac{1}{6}$</p> <p>b) $\frac{1}{3}$</p> <p>c) $\frac{1}{12}$</p> <p>d) $\frac{1}{36}$</p> <p style="text-align: right;">[2Marks]</p>

- 3 The bar chart below shows the number of pets owned by year 9 students in a certain school



What is the probability of selecting a student at random who own a dog or a snake? Choose one answer

- a) $\frac{8}{13}$
- b) $\frac{9}{13}$
- c) $\frac{9}{26}$
- d) $\frac{8}{169}$

[2Marks]

- 4 Kelsey and Keelan are playing a game by rolling two six sided dice.

Kelsey wins if any of the dice show a number above 4

Keelan wins if any of the dice show a number below 4

Is the game fair? Show how you decide

[2Marks]

5 Janis arranges the numbers 3, 1, 5 and 8 to form a four digit number. What is the probability that the product of the four digits is above 110?

- a) 0
- b) 1
- c) 0.5
- d) 0.55

[1mark]

6 N is an integer from the set $-5 \leq n < 6$
The probability that $N^3 > 50$ will be equal to

- a) $\frac{4}{11}$
- b) $\frac{2}{11}$
- c) $\frac{3}{5}$
- d) 10%

[1mark]

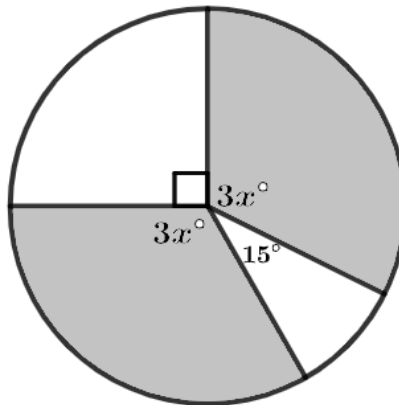
7 Steve chooses a number from the set $\{2, 3, 4, 5, 6, 7\}$
Nathan chooses a number from the set $\{1, 3, 5, 7, 9, 11\}$
What is the probability that both Steve and Nathan choose a number above 9?

Choose one answer

- a) 30%
- b) $\frac{1}{3}$
- c) 0
- d) $\frac{1}{6}$

[1Mark]

8 A circular spinner is shown below



What is the probability that the spinner lands on a shaded area?

- a) $\frac{1}{36}$
- b) $\frac{1}{60}$
- c) $\frac{17}{24}$
- d) $\frac{37}{360}$

[3Marks]

- 9 Here is a Two-way table about the number of Year 10 and Year 11 students who ‘liked’ or ‘disliked’ the new school uniform.
Complete the table [2Marks]

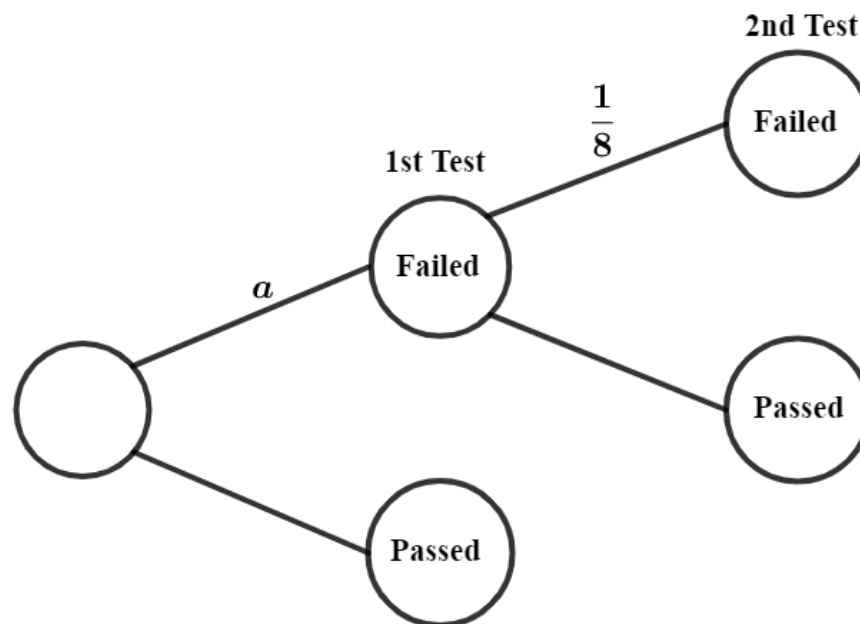
	Like	Dislike	Total
Year 11	115		
Year 10		75	
Total	205		410

- a) Use the table to explain why the probability that a year 10 student dislikes the uniform is different from the probability that a student that dislikes the uniform is a year 10 student.
[2Marks]

- b) What is the probability that a student picked at random likes the new uniform?

[1Mark]

10 Lewis is going to take his driving test
The diagram below shows the probabilities



a) What is the probability that Lewis passes his 1st Test?

b) What is the probability that Lewis fails his 2nd Test?

[2Marks]