

# Summer Term Maths Year 10

Day 1

Week 9

Use the fact that probabilities sum to 1

1 The probability of rolling a 4 on a die is  $\frac{1}{6}$

What is the probability of not rolling a 4?

2 The probability of getting a tail on a biased coin is 0.42

What is the probability of getting a head?

3 Jack is playing a game.

$P(\text{Jack wins})=0.2$

$P(\text{Jack loses})=0.7$

What is  $P(\text{Jack draws})$ ?



4 The probability that Simon gets Maths homework is  $x$

What is the probability that Simon does not get Maths homework?

5 The table shows the probabilities of students being picked at random from each year group.

Year 7	Year 8	Year 9	Year 10	Year 11
0.3	0.15	0.1	0.05	$x$

Find following probabilities.

a)  $P(\text{Year 11})$

b)  $P(\text{Year 7 or year 8})$

c)  $P(\text{Not Year 9})$

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**6** A bag contains 6 red marbles, 4 blue marbles and 5 green marbles. One marble is chosen at random. Find the following probabilities.

- a)  $P(\text{Red})$
- b)  $P(\text{Blue or Red})$
- c)  $P(\text{not Green})$

What do you notice about your answers to part b) and c)?

**7** Design a spinner with the colours “Red” “Blue” “Green” and “Yellow” that fits the following criteria.

$$P(\text{Red}) = \frac{1}{10}$$

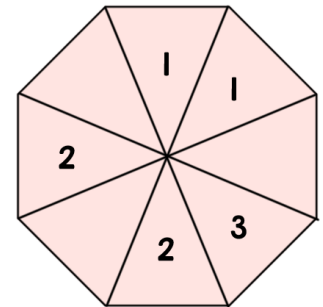
$$P(\text{Blue}) = 0.5$$

$$P(\text{Green}) = P(\text{Yellow})$$

**8** Whitney is designing a spinner that must have the following probabilities.

$$P(2) = P(3)$$

$$\text{and } P(1) < P(2)$$



Fill in the missing numbers.