

# WORKSHEET#1: PROBABILITY

NAME: \_\_\_\_\_

CLASS: \_\_\_\_\_

DATE: \_\_\_\_\_

## Question 1

A bag contains 20 balls which are numbered from 1 to 20.

Find the probability of drawing at random, a ball that is

- (a) an even number, Answer: .....
- (b) greater than 5 but smaller than 12, Answer: .....
- (c) a prime number, Answer: .....
- (d) not a prime number. Answer: .....

## Question 2

A two-digit number is formed at random using the digits 2, 3, 4 and 5 with repetition of digits allowed.

- (a) List the sample space. Answer: .....
- (b) Find the probability of
  - (i) forming an odd number, Answer: .....
  - (ii) forming a number  $x$ , where  $x > 44$ , Answer: .....
  - (iii) forming a number divisible by 5. Answer: .....

## Question 3

A box contains 30 apples, of which 14 are red and 16 are green.

An apple is picked at random from the box.

Find

- (a) the probability of picking a green apple, Answer: .....
- (b) the number of red apples to be removed so that the probability of picking a green apple from the remaining apples in the box is  $\frac{2}{3}$ .

Answer: .....

## Question 4

A box contains 2 blue balls, 2 red balls and 1 green ball. A second box contains 1 red toy block, 1 green toy block and 1 yellow toy block. A ball and a toy block are drawn at random from their respective boxes.

	Blue	Blue	Red	Red	Green
Red	B, R				G, R
Green		B, G		R, G	
Yellow			R, Y		

- (a) Complete the possibility diagram above.
- (b) Find the probability that the ball and toy block
  - (i) are both red in colour, Answer: .....
  - (ii) have the same colours, Answer: .....
  - (iii) have different colours. Answer: .....

**Question 5**

A letter is selected at random from each of the two words 'EARTH' and 'MARS'.

(a) Complete the possibility diagram below showing all the possible outcomes.

	E	A	R	T	H
M					
A					
R					
S					

(b) Find the probability that

(i) the two letters are the same, *Answer:* .....

(ii) at least one of the two letters is a vowel. *Answer:* .....

**Question 6**

A box contains  $x$  red balls,  $(x + 3)$  **blue balls** and  $(3x - 1)$  white balls.

(a) If the probability of drawing a red ball is  $\frac{2}{11}$ , find the value of  $x$ .

*Answer:* .....

(b) Find the probability of a white ball.

*Answer:* .....

**Question 7**

There are 5 discs in a bag, labelled with numbers from 3 to 7. Two discs are drawn at random, one at a time without replacement, from the bag. The possibility diagram below shows the product of the two numbers.

×	3	4	5	6	7
3		12	15	18	21
4	12		20	24	28
5	15	20		30	35
6	18	24	30		42
7	21	28	35	42	

Find the probability that the product of the two numbers is

(a) an odd number, *Answer:* .....

(b) a multiple of 10, *Answer:* .....

(c) less than 20 **OR** more than 30. *Answer:* .....

**Question 8**

A card is taken from a well-shuffled standard pack of 52 cards. Find the probability that it is

(a) an ace of clubs, *Answer:* .....

(b) a king, a queen or a jack, *Answer:* .....

(c) a red eight, *Answer:* .....

(d) a heart or a queen, *Answer:* .....

(e) a black picture card or a five *Answer:* .....