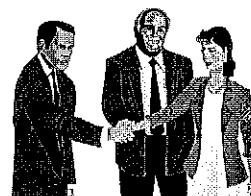# WORKSHEET 1 PROBABILITY – CHAPTER 15

THERE ARE 3 KINDS OF PEOPLE

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1 Indicate whether the following events are **certain, likely, an even chance, unlikely** or **impossible to occur.**
(a) The sun will rise tomorrow.
(b) If we choose one Year 7 student at random from a class roll then that student is left handed.
(c) Throw an odd number with a roll of a die.
(d) I will throw a 6 with a roll of a die (after throwing 5 consecutive sixes).

2 The weather forecaster indicated on the evening news that there will be:
(a) 20% chance of raining tomorrow
(b) 50% chance of raining on Tuesday
(c) 70% chance of raining on Wednesday.
Convert these probabilities to a fraction.

3 Compare and order from the least to the most likely.
(A) Australia Day is on 26 January, (B) An asteroid will hit and destroy the Earth, (C) It will snow in Thredbo during winter, (D) throw an odd number with one roll of a die.

4 A hexagonal spinner is spun. It has 3 sides blue, 2 sides red and 1 side yellow.
Order from least likely to most likely when the spinner point to:
A red   **B** blue   **C** yellow

5 At a fete, tickets numbered 1 to 200 were issued and one ticket was chosen at random. Using the descriptions: certain, likely even chance, unlikely, impossible, what is the chance that the ticket for the lucky door prize is described by the following:
(a) above 100   (b) 100   (c) between 50 and 100
(d) 201   (e) more than 20

6 Find the total number of possible outcomes (sample space) for the following experiments.
(a) Rolling an even number with one die.
(b) Spinning a spinner with 5 equal sized sections.
(c) Choosing a consonant from the word 'school'.

7 Gomez rolls a 12-sided die with faces numbered 1 to 12.
What is the probability of obtaining:
(a) 5   (b) number greater than 10
(c) number less than 5   (d) a multiple of 4

8 A bag contains 2 Red, 3 Green, 2 Black, 2 Yellow balls. One ball is chosen at random and its colour noted. How many coloured balls are there in the bag? Find the probability that the ball is;
(a) green   (b) pink
(c) black or yellow   (d) green or black or red

9 100 people attended a recent Maths Association Dinner. There were 5 prizes for the lucky door prize. What is the probability for James to win one of the prizes?

10 Suppose we take the 4 queens from a pack of playing cards and placed them face down on a table. Claire chooses one of the 4 cards at random. What is the probability that the card is a:

(a) queen of diamonds   (b) red queen

(c) queen of hearts or a queen of clubs   (d) black queen

11 From a well shuffled pack of 52 playing cards, one card is chosen at random. What is the probability that the card chosen is:

(a) an ace   (b) red card   (c) a black king

(d) picture card   (e) king of diamonds   (f) a joker

12 The names of five students, Jim, Jack, Jacqueline, Jordan and Melissa were placed in a hat and one name was drawn at random. What is the probability that the name is;

(a) a girl's name   (b) start with J

(c) a boy's name   (d) not Jim or Jack

13 A letter is chosen at random from the word MATHEMATICS. What is the probability that the letter is:

(a) E   (b) T   (c) S

(d) K   (e) M or A   (f) not A or M

Answers:

A	C	D	E	H	H	N	O
$\dfrac{1}{4},\dfrac{1}{2}$ $\dfrac{1}{2},\dfrac{1}{2}$	Certain Unlikely Even unlikely	B D B A	$\dfrac{1}{20}$	$\dfrac{1}{3},0$ $\dfrac{4}{9},\dfrac{7}{9}$	$\dfrac{2}{5},\dfrac{4}{5}$ $\dfrac{3}{5},\dfrac{3}{5}$	$\dfrac{1}{12},\dfrac{1}{6}$ $\dfrac{1}{3},\dfrac{1}{4}$	Even Unlikely Unlikely Impossible likely

O	S	T	U	W
$\dfrac{1}{13},\dfrac{1}{2}$ $\dfrac{1}{4},\dfrac{3}{13}$ $\dfrac{1}{52},0$	6 5 6	Yellow Red blue	$\dfrac{1}{11},\dfrac{2}{11}$ $\dfrac{1}{11},0$ $\dfrac{4}{11},\dfrac{7}{11}$	1:5 1:1 7:10

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4 12 5 6 9   2 8 11   1 10 7

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1 5 13 7 4   10 7 3   4 12 11 6 9

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2 8 5   1 10 7 4