

Master Maths 10 Worksheet 72
Probability 2

72

Name: _____

1. Rosanne has two hats (red and green), three scarves (red, blue and green) and three pairs of gloves (red, blue and green). One cold, dark morning she randomly chose a hat, scarf and pair of gloves from her wardrobe.

(a) Construct a tree diagram showing all the possible combinations.

(b) Find the following probabilities and write them as fractions in their simplest form.

(i) Pr(all items are the same colour)

(ii) Pr(all items are different colours)

(iii) Pr(she chose at least one blue item)

2. There is a game at a sideshow where you place **two** balls into the mouth of a clown.

The clown's head turns from side to side and the balls can drop into any one of the four numbered boxes underneath.

The boxes are numbered 1, 3, 5 and 10.

The two numbers are **multiplied** to determine if a prize is won.



(a) Complete the two-way table below showing all possible outcomes.

The prizes and the scores needed are:

A **soft toy** with a score of **1 or 100**.

A **chocolate** with a score that is an **odd number**.

A **puzzle** with a score that is a **multiple of 5**.

A **poster** with a score that is a **multiple of 3**.

(b) Find the following probabilities and write them as fractions in their simplest form.

(i) Pr(winning a soft toy)

(ii) Pr(winning a chocolate)

(iii) Pr(winning a puzzle)

(iv) Pr(winning a poster)

(v) Pr(winning three prizes)