

Master Maths 8 Worksheet 20

Rates 2

20

Name: _____

1. Four runners recorded the times they each took to run a certain distance. These are shown in the table below.

<i>Name</i>	<i>Distance</i>	<i>Time</i>
Rafael	300 m	75 sec
Binh	1 km	3 min 20 sec
Sofia	1800 m	5 min
Feng	14.4 km	1 hr 20 min

Complete the table below showing the speed, in metres/sec (m/s), of each runner and how long it would take, in seconds, each runner to run 600 m.

<i>Name</i>	<i>Speed (m/s)</i>	<i>Time to run 600 m (s)</i>
Rafael		
Binh		
Sofia		
Feng		

2. (a) Jemmi measured her hair to be 150 mm long at the start of a year and 294 mm at the end of the year. By how much did it grow each *month*?

mm

- (b) How long would her hair be 6 months later?

mm

3. The population of a city was 200 000. It was growing at the rate of 3% each year.

(a) Find the population a year later.

(b) Find the population after another year.

4. The population of Belarus is approximately 9 000 000 and is decreasing by 0.5% each year. Find the approximate population after one year.

5. The number of numbats in a national park was estimated at 580. A year later the population was 620.

(a) Is the population increasing or decreasing?

(b) What is the percentage change in the population? Give answer to one decimal place.

(c) If the population changes at the same rate the following year find the population at the end of that year. Round to whole number.