

**Year 7 Mathematics 2015**

**Common Test 5: Measurement, Percentages and Probability Time allowed: 60 mins**

**Total marks: 60** **Name**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Show your working for any question worth more than one mark.

1. Choose the **best** measurements from the box below for the following:

**m mL km2 cm3**

**L mg mm km**

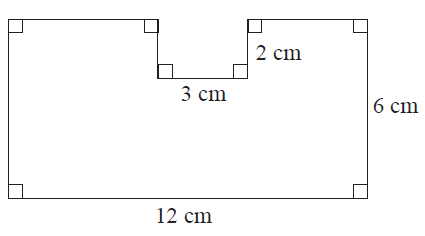
1. The **length** of an insect. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]
2. The **capacity** of an ice-cream container. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]
3. The **volume** of a text book. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]
4. Calculate the perimeter for the following shapes. Remember to show full working.
5. (b)

7.5 km

7 cm

45 mm

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [3] \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [2]

1. 

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [2]

1. **Measure** the indicated dimensions of the following shape and calculate the **area** and **perimeter.** Remember to **show your working**.

Height: \_\_\_\_\_\_\_\_\_\_\_ [1]

Width: \_\_\_\_\_\_\_\_\_\_\_ [1]

Perimeter:

*Answer* \_\_\_\_\_\_\_\_\_\_\_\_\_\_ [2]

Area:

*Answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_* [2]

1. Calculate the area for the given shapes. **Show your working.**

9 cm

40 mm

5 cm

1. (b)

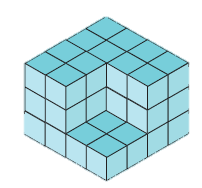
3 m

1.5 m

2 m

*Answer* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [2] *Answer* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [3]

1. Calculate the **volume** of the following objects. **Working** is required for **(b)**.

****

1. (b)

7 cm

4 cm

2 cm

*Answer* \_\_\_\_\_\_\_\_\_\_\_\_ cube units [1] *Answer* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [2]

1. Put the following symbols and words in the correct box to show whether they are one, two or three dimensional. [3]

**m cm3 Length L Area**

**Volume m2 Capacity Width**

|  |  |  |
| --- | --- | --- |
| **One dimensional** | **Two dimensional** | **Three dimensional** |
|  |  |  |

1. Complete the table below. [6]

|  |  |  |
| --- | --- | --- |
| **Percentage** | **Decimal** | **Fraction** (you do not need to simplify) |
| 42% | (a) | (b) |
| (c) | 1.92 | (d) |
| (e) | (f) |  |

1. What percentage of an hour is four minutes?

*Answer* \_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]

1. What percentage of a year is 3 months?

*Answer* \_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]

1. Find 34% of 500 grams

*Answer* \_\_\_\_\_\_\_\_\_\_\_\_\_\_ [2]

1. Find 61% of 300 students

*Answer* \_\_\_\_\_\_\_\_\_\_\_\_\_\_ [2]

1. If 2% of a certain number is 5. What is the number?

*Answer* \_\_\_\_\_\_\_\_\_\_\_\_\_\_ [2]

1. In an aeroplane with 280 seats there are 4% of for first class, 12% for business class and the rest are economy class.
2. What percentage is economy class?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]

1. How many seats are in each of the three classes?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [2]

1. Choose the **best** word from the box below to **describe** the probability of the following event occurring.

Impossible Unlikely

Likely Certain

1. The Prime Minister will visit the school tomorrow \_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]
2. A quadrilateral has four sides \_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]
3. Someone will not clean up their mess in the cafeteria tomorrow

\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]

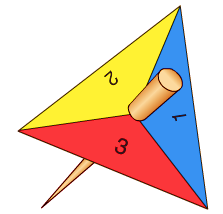
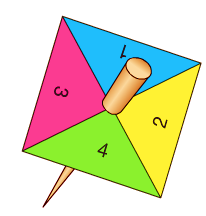
1. Twenty pieces of paper, each with a different number from one to twenty written on them, are placed in a hat. One number is drawn.
2. What is the probability it is a number with a 1 in it?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]

1. What is the probability the number is less than 5? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]
2. What is the probability the number is a factor of 20?

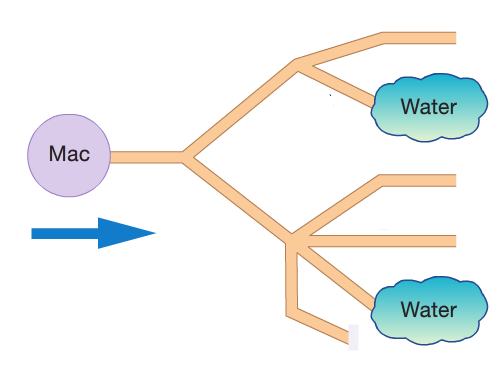
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [2]

1. What is the probability the number is **not** less than 5? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]
2. (a) Draw a tree diagram **or** sample space to show all the possible outcomes of spinning the following two spinners and **adding** the resulting numbers. [2]



1. Calculate the probability that the total of the two spinners will be 5

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [2]

1. Find the percentage chance of survival for the following two cases. (Mac survives if he reaches water, whereas the mouse needs to reach the cheese, they never retrace their steps)
2. Start with 8 life chances [2]

*Answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

1. Start with 30 life chances [2]



*Answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*