

**Year 7 Mathematics 2012**

**Measurement and Location Test**

**Total marks:** 58 **Name**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

1. **Measure** the shape below and calculate its **perimeter.** Remember to put the correct units in your answer.

 *Answer* (1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [4]

2. **Calculate** the **perimeter** of the shape below.

2 m

7 m

Not drawn to scale

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

3. Give the **best** unit for measuring the following

 a) The capacity of a water bottle \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]

 b) The area of thumb print \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]

 c) The mass of a chair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]

 d) The height of a desk \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]

4. Calculate the **perimeter** of the following shape.

14 m

8 m

6 m

2 m

 *Answer* (4) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [3]

5. Determine the **area** of the following shapes.

a) b)

4 cm

8 cm

 *Answer* (5a) \_\_\_\_\_\_\_\_\_\_\_ $cm^{2}$ [1] *Answer* (5b) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [3]

6. Determine the **area** of **shaded** shape below

9 mm

22 mm

 *Answer* (6) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [3]

7. Determine the volume of the prism shown. Each block is 1 $cm^{3}$



 *Answer* (7) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]

8. (a) Calculate the **volume** of the prism shown. (b)Calculate the **capacity** of the container shown.



*Answer* (8a) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [3] *Answer* (8b) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [3]

9. Fill in the gaps below:

1. There are \_\_\_\_\_\_\_\_\_\_\_\_ millimetres in a metre. [1]
2. If a cylinder can hold 300 ml of water, its volume is \_\_\_\_\_\_\_\_\_\_ cm3. [1]
3. A square with each side measuring \_\_\_\_\_\_\_\_\_\_\_\_ has an area of 81 cm2 and a perimeter of \_\_\_\_\_\_\_\_\_\_\_. [2]
4. An elephant at the zoo weighs 6.3 \_\_\_\_\_\_\_\_\_\_\_\_. [1]

11.The diagram below shows a treasure map.



|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **11** |  |  |  |  |  |  | http://2.bp.blogspot.com/-mgkC5oagUSg/TyVzAs-spOI/AAAAAAAAAnk/OGO7kWNJEBU/s400/peterpan_118182159_std.gif |  |  |  |
| **10** |  |  |  |  |  |  |  |  |  |  |
| **9** |  |  |  | http://www.arnan.com/arnan/cartoon_forest.jpg |  | Peter Pan |  |  |  |  |
| **8** |  |  |  | Haunted Forest |  |  |  |  |  |  |
| **7** |  |  |  |  |  |  | Blackbeard’sHut |  |  |  |
| **6** |  |  |  |  |  |  |  |  |  |  |
| **5** |  |  |  | http://www.supercoloring.com/wp-content/main/2010_07/pirate-flag-coloring-page.jpg |  |  |  |  |  |  |
| **4** |  |  |  |  |  |  |  |  |  |  |
| **3** |  |  |  |  |  |  |  |  |  |  |
| **2** |  |  |  |  |  |  |  |  |  |  |
| **1** |  |  |  |  |  |  |  |  |  |  |
|  | **A** | **B** | **C** | **D** | **E** | **F** | **G** | **H** | **I** | **J** |

 a) The lion \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [2]

Scale: 1 grid represents 100 m

1. At grid reference H5 draw a cave entrance [1]
2. 200 m North of the pirate flag is a pond, draw the pond. [1]
3. Give the grid reference of the hut \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]
4. X marks the treasure, giving the distance and only using horizontal and vertical steps explain how Peter can get to the treasure

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

1. How far did Peter have to walk? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]
2. What is situated South East of Peter? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [1]

12. Below is a picture of Mr Edmeades’ house and section. The scale is 2 cm represents 4 m.

Front



House

(a) Rewrite the scale in ratio format 1: \_\_\_\_\_\_\_\_ [1]

(b) Give the dimensions of the house in real life

 Width: \_\_\_\_\_\_\_\_\_\_ Length: \_\_\_\_\_\_\_\_\_\_\_\_\_ [2]

(c) Mr Edmeades wants to build a garage. The dimensions need to be 4 m by 5 m. Draw to scale a garage in the shaded area of his section.

 [2]

(d) Mr Edmeades wants to plant an oak tree in the south-east corner of his yard. Oak trees grow to be very large and he knows the tree will need to be planted at least 3 metres away from the fence. Draw a suitable place for the oak tree. [2]

(e) Rudolf, Mr Edmeades pet dog, likes to patrol the front fence. He walks in a straight line 1 metre away from the fence, draw the loci of where the dog would walk. [1]

13.

 Give the coordinates of:

 a) Point A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [2]

 b) Point B \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [2]

 Draw and label the following

 c) Point C at (0,5) [2]

**A**

 d) Point E at (5,2) [2]

**B**

14. Draw the locus of a swimmers hand as he swims freestyle across the school pool.

 [1]

15. A goat is tied to a rail so the chain can slide up and down the rail, which of the following pictures best shows the locus of the goat? (Circle the letter of the correct picture).

 A.

Rail

 B.

 C.

 [1]