Distances and dimensions

VOCABULARY PRACTICE

INTERMEDIATE | B1-B2

Name: _____ **Date:** _____

1 Match each dimensional term with its meaning.

1 diameter	____	a total space contained in a solid object
2 radius	____	b relationship between a drawing and actual size
3 circumference	____	c distance from the centre of a circle to its edge
4 perimeter	____	d total area covering the outside of an object
5 surface area	____	e height above sea level or the ground
6 volume	____	f distance around a flat shape
7 altitude	____	g distance through the centre of a circle
8 scale	____	h distance around the edge of a circle

2 Complete the dimensional collocations.

altitude | **approximately** | **diameter** | **dimensions** | **metres** | **proportion** | **scale** | **surface**

1 overall _____

2 drawn to _____

3 in direct _____

4 a circular _____

5 at an _____ of 800 metres

6 _____ 20 centimetres

7 measured in square _____

8 the outer _____ area

3 Correct one mistake in each sentence.

1 The radius is twice the diameter. _____

2 Volume is measured in squared units. _____

3 The altitude shows how wide a mountain is. _____

4 A scale of 1:100 makes the drawing larger than reality. ____

5 The circumference is the area inside a circle. _____

6 The box has dimensions of 2 m x 3 m x 4 square metres. _____

7 Surface area measures only one face of an object. _____

8 The perimeter of a circle is normally called its diameter. _

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4 Complete the design specification with words from the box.

circumference | diameter | dimensions | perimeter | radius | scale | surface area | volume

The model is drawn to a **1** _____ of 1:50. Its base has **2** _____ of 4 m by 3 m, giving a **3** _____ of 14 m. The cylindrical tank has a **4** _____ of 2 m and therefore a **5** _____ of 1 m. The distance around it is its **6** _____. The tank's capacity depends on its **7** _____, while the material required depends on its **8** _____.

5 Read the text and answer the questions briefly.

Measuring inaccessible distances

Some distances cannot be measured directly. Surveyors can estimate the width of a river or the height of a building by measuring angles and a known baseline. With these values, trigonometry provides the missing distance. Modern instruments combine laser measurement, satellite positioning and digital calculation, but accurate reference points remain essential.

1 Why are indirect methods sometimes needed? _____

2 What two values can surveyors measure? _____

3 What provides the missing distance? _____

4 Which modern measuring technology is mentioned? _____

5 What other two technologies are used? _____

6 What remains essential? _____

6 Rewrite using the word in capitals.

1 The circle measures 40 cm across its centre. **DIAMETER** _

2 The map is one hundred times smaller. **SCALE** _____

3 The mountain rises 1,500 m above sea level. **ALTITUDE** _

4 The container holds 24 cubic metres. **VOLUME** _____

OVER TO YOU

Write a **100-120 word** specification for a room, structure or container using dimensions and scale.

[ ] Use at least ten target expressions. [ ] Use linear, square and cubic units correctly. [ ] Explain relationships clearly.

Distances and dimensions

ANSWER KEY

1 Dimensional terms

1 **g** 2 **c** 3 **h** 4 **f** 5 **d** 6 **a** 7 **e** 8 **b**

2 Dimensional collocations

1 **dimensions** 2 **scale** 3 **proportion** 4 **diameter** 5 **altitude** 6 **approximately** 7 **metres** 8 **surface**

3 Corrections

1 diameter is twice the radius 2 **cubic** units 3 how **high** 4 drawing **smaller** than reality
5 distance around a circle 6 2 m x 3 m x **4 m** 7 covers **all outside faces** 8 called its **circumference**

4 Design specification

1 **scale** 2 **dimensions** 3 **perimeter** 4 **diameter** 5 **radius** 6 **circumference** 7 **volume** 8 **surface area**

5 Reading - suggested answers

1 Some distances are inaccessible. 2 Angles and a known baseline. 3 Trigonometry. 4 Laser measurement.
5 Satellite positioning and digital calculation. 6 Accurate reference points.

6 Rewriting - possible answers

1 Its **diameter** is 40 cm. 2 The map has a **scale** of 1:100. 3 Its **altitude** is 1,500 m. 4 Its **volume** is 24 cubic metres.

Over to you: Answers will vary. Check dimensions, scale, unit type and precision.