PRIMARY MATHS SERIES

REVISION GUIDE FOR STANDARDS 7 AND 8

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SCALE DRAWING

9.1 Specific Objectives

By the end of this unit, the learner should be able to:

a) Reading and writing linear scale in ratio form.

b) Converting linear scale from statement form to ratio and from ratio to statement

c) Work out problems involving drawing.

9.2 Worked Exercise

1. The distance between two villages is 6.4KM. On the map of the region this distance is represented by a line 1.6 cm long. What is the scale of the map?

A. 1: 400000 B. 1: 40000 C. 1: 4000 D. 1: 4

Working

Actual distance = 6.4 km

Drawing length = 1.6cm

1 cm on the map = 4/1.6

= 4km - on the ground

But 1 km = (1000 x 100)cm

4km = 4 x 1000 x 100

= 400000cm

Therefore scale = 1: 400000

The correct answer is A (1: 400000)

2. A rectangular field measures 105 m. On a scale drawing of the field, the longer side is 7cm.What is the measurement of the width on this scale drawing?

A. 5 cm B.50 cm C.500 cm D.7.35cm

7 cm represents 105 m

1 cm represents (105 ÷ 7)

Scale used,

1 cm represents 15m

? 75m

$$= \frac{(75 \times 1)}{15}$$

= 5cm

The correct answer is 5cm (A)

3. The scale on a plan is 1:20. How many cm will represent 1m on this plan?

A. 50 cm B. 50 cm C. 5 cm D. 2 ½ cm

Working

1 : 20 scale means 1 cm on drawing represents 2 cm of real length.

1 cm represents 20cm

? 100cm

= 100/20

= 5cm

The correct answer is C (5cm)

4. A rectangular field measuring 720m by 550m is to be represented on a scale drawing using the scale 1: 10,000. What is the perimeter of the drawing in centimeters?

A. 0.254 B. 2.54 C. 25.4 D. 254

Working

1: 10000 means 1 cm represents 10000cm on the map represents 10000 cm on the ground

If 1 cm = 100000cm

? = 720m

= 720/ 100

= 7.2cm

If 1cm = 100cm

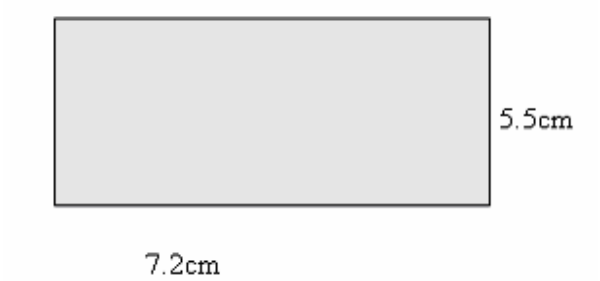
? = 55cm

$= \frac{550 \times 1}{100}$

= 550 ÷ 100

= 5.5cm

Perimeter



P = 2(L+W)

= 2 (7.2 + 5.5)

= 25.4 cm

The correct answer is (C)

5. The scale of a map is 1: 50000. What is the length of this map of a road 20km long?

A. 40cm B. 400 cm C. 4000 cm D. 4 cm

Working

Scale 1 : 50000 means 1cm on the map represents 50000 cm on the ground.

$\therefore$ 20 km = 20 x 1000 x 100

= 2000000 cm

50,000cm represents = 1 cm

2000000 represents = 2000000/50000

= 40cm

The correct answer is A (40 cm)

9.3 Practice Test Paper 9

1. On a map of scale 1: 100000 a rectangular plot of land measures 7cm and 4cm. What are the actual lengths of the plot in kilometer?

A. 7 by 4 B. 70 by 40 C. 700 by 400 D. 70000 by 40000

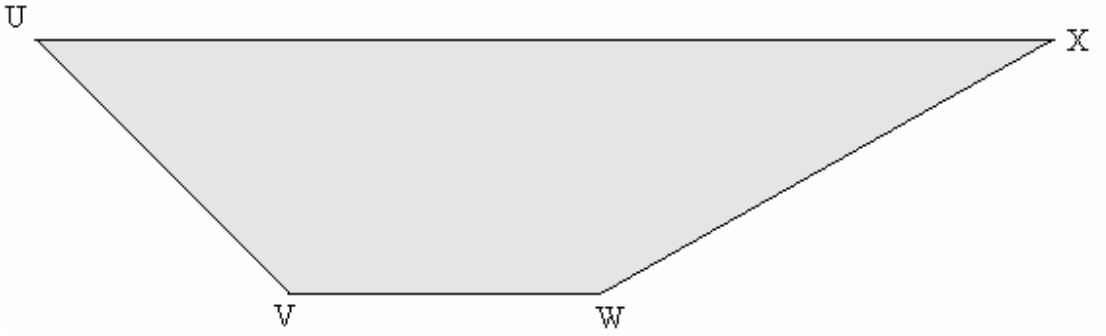
2. On a map whose scale is 1: 50000 a piece of land is represented by a rectangle measuring 3cm by cm. What is the actual size if this land in hectares?

A. 0.25 B. 150 C. 1500 D. 15000

3. The scale on a map is 1:200. What length on the nap that would represent a distance of 50metres?

A. 0.25cm B. 25cm C. 4 cm D 2.5cm

4. The scale drawing below represents four towns U, V, W and X. The shortest distance from town V to W is 450km.



What is the distance from town U to town x through town V and W?

A. 100km B. 1350km C. 2480km D. 1130km

5. A map is drawn to a scale of 1:20000. What is the distance, in kilometers, of a road which is 25cm on the map?

A. 5 B. 50 C. 500 D. 5000

6. A distance of 5km is represented on a map by a length of 4cm. What is the scale used?

A. 1: 125 B. 1: 1250 C. 1: 12500 D. 1:125000

7. A road is represented by a length of 3.2cm on a map. What is the actual length of the road in kilometers if the scale used is 1: 50000?

A. 160 B. 16 C. 1.6 D. 0.16

8. An road measuring 3cm on the map is 12 kilometers on the actual ground. What is the scale used on the map?

A. 1:4 B. 1:400 C. 1:4000 D. 1:400000

9. A rectangular field measuring 560cm by 800m is to be represented on a scale 1: 20000. What is the area of the scale drawing in cm^2?

A.2240 B.1120 C. 22.4 D. 11.2

10. A section of a road measuring 2km is represented on a map by a length of 10cm. What scale was used?

A. 1:200 B. 1:2000 C. 1:20000 D. 1:200000.

11. The scale of a building plan is 1:200. What length on the plan represents 5m of the building?

A. 40 cm B. 25 cm C. 2.5 cm D. 0.4 cm.

12. On a map a rectangular plot of land measures 6cm by 4cm. If the scale on the map is 1:1000, what is the actual area of the plot in square meters?

A. 24m² B. 240m² C. 2400m² D. 24000 m²

13. A rectangular field measuring 420m by 600m is to represented on a scale drawing using the scale 1: 20000.What is the area of the scale drawing?

A. 63 cm^2 B. 6.3 cm^2 C. 0.63 cm^2 D. 0.063 cm^2

9.4 Practice Test Paper 9 Answers

1		6		11	
2		7		12	
3		8		13	
4		9			
5		10			