



GEO.SK1 Ordnance Survey Map Skills: Grid References, Scale and Distance

AQA 8035 • Calculators not allowed • about 40 minutes

Total Marks

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Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** On the 1:50 000 map extract of Grid Area West, the labelled grid square whose south-west corner is at eastings 24 and northings 12 contains a post office symbol close to the south-west corner. Give the FOUR-FIGURE grid reference for the grid square that contains the post office.

(Total for Question 1 is 1 mark)

- 2** On the same 1:50 000 map extract of Grid Area West, a footbridge is located within grid square with south-west corner 25 eastings and 13 northings. The bridge lies 450 metres east and 200 metres north of the south-west corner of that square. Give the SIX-FIGURE grid reference for the footbridge, using metres within the square.

(Total for Question 2 is 2 marks)

- 3** An isolated farmhouse is plotted roughly in the centre of grid square with south-west corner at easting 23 and northing 14 on the 1:50 000 map extract. Give the FOUR-FIGURE grid reference for the square containing the farmhouse.

(Total for Question 3 is 1 mark)

- 4** A trig point is located in grid square with south-west corner at easting 26 and northing 11. It lies 120 m east and 780 m north of that corner. Give the SIX-FIGURE grid reference for the trig point.

(Total for Question 4 is 2 marks)

- 5 On the same 1:50 000 map extract the straight-line distance between village Hall at six-figure 243135 and bus stop at six-figure 258145 measures 8.6 cm on the paper map. Using the 1:50 000 scale where 2 cm represents 1 km, calculate the straight-line distance in kilometres between the Hall and the bus stop. Give your answer to one decimal place.

(Total for Question 5 is 2 marks)

- 6 A winding footpath from car park at six-figure 250120 to summit shelter at six-figure 262130 measures 12.0 cm when traced on the 1:50 000 map using a piece of string. Using the 1:50 000 scale (2 cm = 1 km), calculate the path length in kilometres. Give your answer to one decimal place.

(Total for Question 6 is 2 marks)

- 7 On the Grid Area West extract, what is the compass direction from the village green at 244128 to the church at 246132? Give a single compass word (e.g. north-east).

(Total for Question 7 is 1 mark)

- 8 Using the same Grid Area West extract, what is the bearing from the railway station at 240140 to the trig point at 246128? Give your answer as a whole-number bearing in degrees measured clockwise from north.

(Total for Question 8 is 2 marks)

- 9 On the 1:50 000 extract, a small pond lies within the grid square whose south-west corner is at easting 27 and northing 15. The pond is located 310 m east and 640 m north of that corner. Give the SIX-FIGURE grid reference for the pond.

(Total for Question 9 is 2 marks)

- 10** A footpath entrance is marked approximately 22 m east and 780 m north of the south-west corner of grid square with south-west corner at easting 22 and northing 16 on the 1:50 000 map. Give the FOUR-FIGURE grid reference for the square containing the footpath entrance.

(Total for Question 10 is 2 marks)

- 11** On a 1:25 000 map extract, two gates measure 6.0 cm apart when measured on the paper map. Using the 1:25 000 scale where 1 cm represents 250 m, calculate the straight-line distance between the gates in metres. Give your answer to the nearest metre.

(Total for Question 11 is 2 marks)

- 12** On the 1:25 000 extract a river path is traced with string and measures 9.2 cm on the paper. Using the 1:25 000 scale (1 cm = 250 m), calculate the length of the river path in kilometres to two decimal places.

(Total for Question 12 is 2 marks)

- 13** Identify the feature from this OS 1:50 000 map symbol description: a small black square with a flag on top shown next to a road on the map extract. State whether this is a human or physical feature and give its name using the standard OS key.

(Total for Question 13 is 3 marks)

- 14** On the 1:50 000 map extract the straight-line distance between the campsite at six-figure 248118 and the waterfall at six-figure 256146 measures 9.4 cm on the paper map. Using the 1:50 000 scale where 2 cm represents 1 km, calculate the straight-line distance in kilometres and also convert this distance to metres. Show both answers. Give the kilometre answer to one decimal place and the metres answer as a whole number.

(Total for Question 14 is 4 marks)

- 15** A lone oak tree is shown inside the grid square whose south-west corner is at easting 21 and northing 11. The tree is located 075 m east and 345 m north of that corner. Give the SIX-FIGURE grid reference for the oak tree.

(Total for Question 15 is 2 marks)

Mark scheme · GEO.SK1 Ordnance Survey Map Skills: Grid References, Scale and Distance

Question 1

- **B1** 2412, the four-figure grid reference of the square with south-west corner at easting 24 and northing 12, cao
- **Answer: 2412**

Question 2

- **M1** easting within square 450 m gives 45 and northing within square 200 m gives 20, seen or implied
- **A1** 254132 cao
- **Answer: 254132**

Question 3

- **B1** 2314, the four-figure grid reference of the square with south-west corner 23 eastings and 14 northings, cao
- **Answer: 2314**

Question 4

- **M1** easting within square 120 m → 1 and northing within square 780 m → 7 seen
- **A1** 261117 cao
- **Answer: 261117**

Question 5

- **M1** 8.6 cm x (1 km / 2 cm) seen, oe
- **A1** 4.3 km cao
- **Answer: 4.3 km**

Question 6

- **M1** 12.0 cm x (1 km / 2 cm) or 12.0 x 0.5 seen, oe
- **A1** 6.0 km cao
- **Answer: 6.0 km**

Question 7

- **B1** north-east, as the church is east and north of the village green (from 244128 to 246132) cao
- **Answer: north-east**

Question 8

- **M1** calculate easting and northing differences: from 240140 to 246128 is +6 east, -12 north, seen
- **A1** bearing 153 degrees cao
- **Answer: 153 degrees**

Question 9

- **M1** within-square easting 310 m → 31 and northing 640 m → 64 seen
- **A1** 273156 cao
- **Answer: 273156**

Question 10

- **M1** identify the grid square by its south-west coordinates 22 and 16, oe
- **A1** 2216 cao
- **Answer: 2216**

Question 11

- **M1** 6.0 cm x 250 m per cm seen, oe
- **A1** 1500 m cao
- **Answer: 1500 m**

Question 12

- **M1** 9.2 cm x 250 m per cm seen, oe
- **A1** 2.30 km cao
- **Answer: 2.30 km**

Question 13

- **B1** identifies the symbol as a feature: summit or trig point is not correct here; the small black square with a flag on top next to a road is a post office box symbol, oe
- **B1** states it is a human feature, oe
- **B1** gives the OS key name, 'post office', oe
- **Answer: Human feature, post office.**

Question 14

- **M1** 9.4 cm x (1 km / 2 cm) or 9.4 x 0.5 seen, oe
- **A1** 4.7 km cao
- **M1** conversion 4.7 km x 1000 to give metres seen, oe
- **A1** 4700 m cao
- **Answer: 4.7 km and 4700 m.**

Question 15

- **M1** within-square easting 075 m -> 0 and northing 345 m -> 3 seen
- **A1** 210113 cao
- **Answer: 210113**