4.6 Measuring, Drawing and Constructing: 1-hour Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Can a triangle be drawn with sides 5 cm, 10 cm and 4 cm? Give a reason for your answer.

(2)

2 A walker is facing West and turns clockwise through 225°. In which direction is the walker now facing? Give the compass direction.

(2)

3 Use a ruler and protractor to draw triangle ABC where AB = 6 cm, angle A = 50 degrees and angle B = 60 degrees. Work out the size of angle C.

(2)

4 A plan of a room uses a scale of 1 : 20. The room is 6.4 m long in real life. How long is the room on the plan? Give your answer in centimetres.

(2)

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5 A map has a scale of 1 : 1000. A lake is 6.4 cm wide on the map. Work out its real width in metres.

(3)

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6 Maya measures an angle with a protractor. One arm of the angle passes through the 35° mark and the other arm passes through the 135° mark on the same scale. Work out the size of the angle.

(2)

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7 The points A and B are 4 cm apart. A point P is the same distance from A and from B. Describe the line on which P must lie and state how far it crosses AB from A.

(2)

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8 Maya measures an angle with a protractor. One arm of the angle passes through the 26° mark and the other arm passes through the 118° mark on the same scale. Work out the size of the angle.

(2)

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9 A map has a scale of 1 : 50000. A lake is 9.4 cm wide on the map. Work out its real width in metres.

(3)

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10 An angle measures 77°. Is it acute, obtuse, right or reflex? Give the type, and write down the size of the reflex angle that goes with it.

(2)

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11 A walker is facing West and turns clockwise through 270°. In which direction is the walker now facing? Give the compass direction.

(2)

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12 The line AB is 6 cm long. A point is always exactly 3 cm from the line AB (on both sides) and no closer. Describe the shape of the locus.

(2)

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13 A walker is facing North and turns clockwise through 270°. In which direction is the walker now facing? Give the compass direction.

(2)

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14 Angle ABC = 138°. The line BD bisects angle ABC. Work out the size of angle ABD.

(2)

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15 A map has a scale of 1 : 2000. A lake is 8.5 cm wide on the map. Work out its real width in metres.

(3)

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16 Can a triangle be drawn with sides 9 cm, 5 cm and 18 cm? Give a reason for your answer.

(2)

---

17 Maya measures an angle with a protractor. One arm of the angle passes through the 13° mark and the other arm passes through the 95° mark on the same scale. Work out the size of the angle.

(2)

---

18 Can a triangle be drawn with sides 12 cm, 4 cm and 4 cm? Give a reason for your answer.

(2)

---

19 Angle ABC = 70°. The line BD bisects angle ABC. Work out the size of angle ABD.

(2)

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20 Can a triangle be drawn with sides 3 cm, 11 cm and 5 cm? Give a reason for your answer.

(2)

21 A dog is tied to a post on a flat field by a rope 6 m long. Describe the shape of the region where the dog can go, and state its radius.

(2)

22 Write down the three-figure bearing of South East.

(1)

23 An angle of 130 degrees is bisected using compasses. State the size of each of the two equal angles formed.

(1)

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Mark scheme · 4.6 Measuring, Drawing and Constructing: 1-hour Pack

Question 1

adds the two shorter sides and compares with the longest	M1
No, with the correct comparison	A1

Answer: **No**

Question 2

270 + 225 = 495 (mod 360)	M1
South East cao	A1

Answer: **South East**

Question 3

uses angle sum of triangle: 50 + 60 + C = 180 or equivalent	M1
C = 70 degrees cao	A1

Answer: **70 degrees**

Question 4

6.4 x 100 = 640 cm, then ÷ 20	M1
32 cm cao	A1

Answer: **32 cm**

Question 5

6.4 x 1000	M1
converts cm to m by ÷ 100	M1
64 m cao	A1

Answer: **64 m**

Question 6

135 - 35	M1
100° cao	A1

Answer: **100°**

Question 7

perpendicular bisector of AB	B1
2 cm from A	B1

Answer: **The perpendicular bisector of AB, crossing AB 2 cm from A**

Question 8

118 - 26	M1
92° cao	A1

Answer: **92°**

Question 9

9.4 x 50000	M1
converts cm to m by ÷ 100	M1
4700 m cao	A1

Answer: **4700 m**

Question 10

acute	B1
283°	B1

Answer: **acute; 283°**

Question 11

270 + 270 = 540 (mod 360)	M1
South cao	A1

Answer: **South**

Question 12

a rectangle-like shape with semicircular ends (a stadium shape)	B1
straight sides parallel to AB at distance 3 cm	B1

Answer: **A shape with two parallel straight sides 3 cm from AB and a semicircle of radius 3 cm at each end**

Question 13

0 + 270 (mod 360)	M1
West cao	A1

Answer: **West**

Question 14

138 ÷ 2	M1
69° cao	A1

Answer: **69°**

Question 15

8.5 x 2000	M1
converts cm to m by ÷ 100	M1
170 m cao	A1

Answer: **170 m**

Question 16

adds the two shorter sides and compares with the longest	M1
No, with the correct comparison	A1

Answer: **No**

Question 17

95 - 13	M1
82° cao	A1

Answer: **82°**

Question 18

adds the two shorter sides and compares with the longest	M1
No, with the correct comparison	A1

Answer: **No**

Question 19

70 ÷ 2	M1
35° cao	A1

Answer: **35°**

Question 20

adds the two shorter sides and compares with the longest	M1
No, with the correct comparison	A1

Answer: **No**

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Question 21

circle **B1**

radius 6 m **B1**

Answer: **A circle (or the inside of a circle) with radius 6 m**

Question 22

135° cao **B1**

Answer: **135°**

Question 23

65 degrees cao **B1**

Answer: **65 degrees**

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