2.10 Angles: 1-hour Pack

EDEXCEL 1MA1 · Calculator allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Write down the number of right angles turned through in each case.

(a) Write down the number of right angles in a full turn. **(1)**

.....

(b) Write down the number of right angles in three-quarters of a full turn. **(1)**

.....

(Total for Question 1 is 2 marks)

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2 The angle at vertex M in triangle LMN can be written as angle LMN. Write down one other three-letter name for this same angle.

(Total for Question 2 is 1 mark)

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3 Two straight lines cross. Work out the size of the angle vertically opposite to an angle of 52 degrees.

(Total for Question 3 is 1 mark)

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4 Work out the missing angle. On a straight line the two adjacent angles are 46 degrees and x. Find x.

(Total for Question 4 is 1 mark)

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5 A, B and C are three angles on a straight line, in that order. Angle A = 38 degrees and angle B = 71 degrees. Work out the size of angle C.

(Total for Question 5 is 1 mark)

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6 Two straight roads cross at a roundabout. One of the four angles formed between the roads is 63 degrees. Work out the size of the angle that is vertically opposite this 63 degree angle.

(Total for Question 6 is 1 mark)

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7 Angle p and angle q are complementary. Angle p = 58 degrees. Work out the size of angle q.

(Total for Question 7 is 1 mark)

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8 Angle m and angle n are complementary. Angle m = 34 degrees.

Work out the size of angle n.

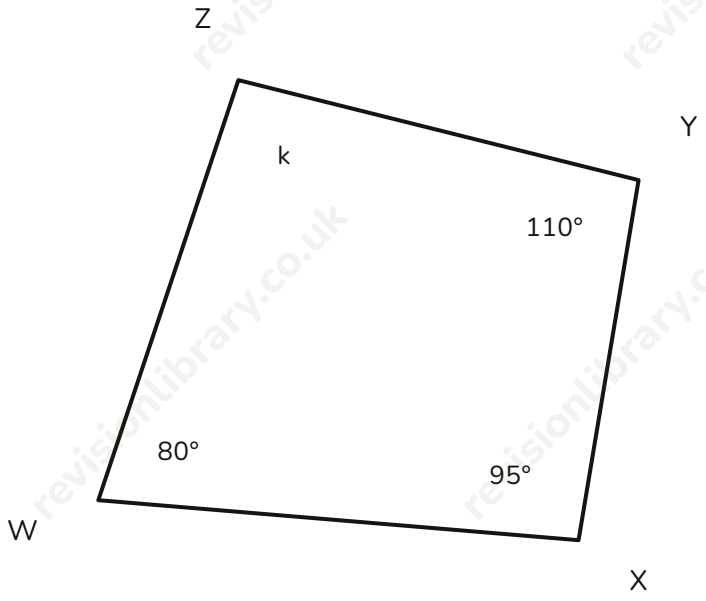
(Total for Question 8 is 2 marks)

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9 Quadrilateral WXYZ has angle W = 80 degrees, angle X = 95 degrees, angle Y = 110 degrees and angle Z = k.

Work out the size of angle k.

Diagram NOT accurately drawn

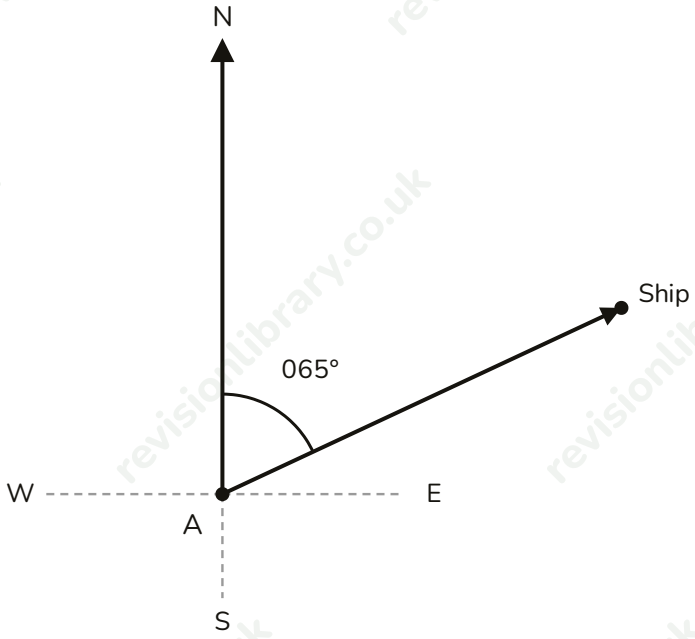


(Total for Question 9 is 3 marks)

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10 A ship sails from port A on a bearing of 065 degrees.

Diagram NOT accurately drawn



(a) Write down why the bearing is given as 065 and not 65. **(1)**

.....

(b) Work out the bearing needed to sail back to port A (the back bearing). **(2)**

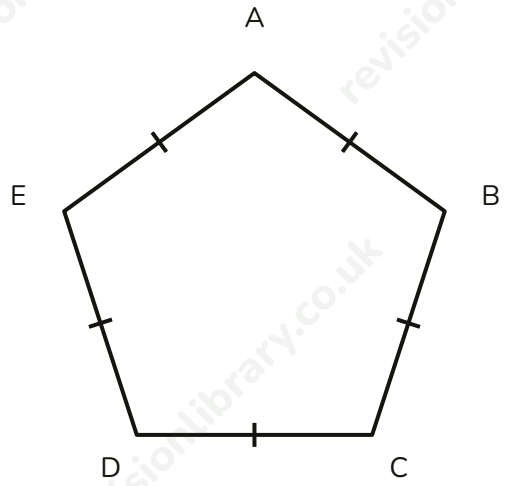
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(Total for Question 10 is 3 marks)

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11 ABCDE is a regular pentagon.

Diagram NOT accurately drawn



(a) Work out the sum of the interior angles of the pentagon. **(2)**

.....

(b) Work out the size of one interior angle of the regular pentagon. **(2)**

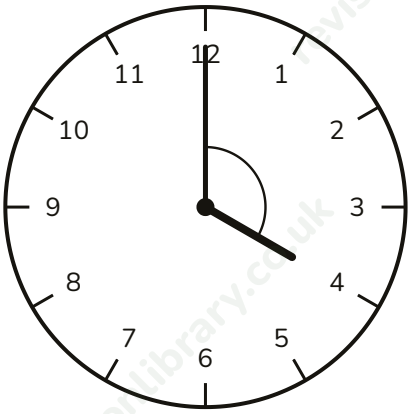
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(Total for Question 11 is 4 marks)

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12 Work out the size of the angle between the hour hand and the minute hand of a clock at 4 o'clock.

Diagram NOT accurately drawn



(Total for Question 12 is 2 marks)

---

13 Triangle ABC is isosceles with AB = AC. Angle ABC = 75 degrees. Work out the size of angle BAC.

(Total for Question 13 is 3 marks)

---

14 Angles on a straight line are 79 degrees, 24 degrees and x degrees (with no other angles). Work out the value of x. Give a reason for your answer.

(Total for Question 14 is 3 marks)

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15 The angles of a triangle are x degrees, 4x degrees and 5x degrees. Work out the size of the largest angle.

(Total for Question 15 is 3 marks)

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16 Three of the angles in a quadrilateral are 90 degrees, 92 degrees and 118 degrees. Work out the fourth angle. Give a reason for your answer.

(Total for Question 16 is 3 marks)

---

17 Triangle ABC is isosceles with AB = AC. Angle ABC = 35 degrees. Work out the size of angle BAC.

(Total for Question 17 is 3 marks)

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18 Angles on a point are 58 degrees, 65 degrees and x degrees (with no other angles). Work out the value of x. Give a reason for your answer.

(Total for Question 18 is 3 marks)

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19 PQRS is a trapezium with PQ parallel to SR. Angle P = 108 degrees.

(a) Write down the size of angle S. Give a reason for your answer. **(2)**

(b) Angle Q = 95 degrees and angle R = w. Work out the size of angle w. **(3)**

(Total for Question 19 is 5 marks)

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Mark scheme · 2.10 Angles: 1-hour Pack

Question 1

(a) 4 cao **B1**

(a) Answer: 4

(b) 3 cao **B1**

(b) Answer: 3

Question 2

NML oe **B1**

Answer: Angle NML

Question 3

52 degrees cao **B1**

Answer: 52 degrees

Question 4

134 degrees cao **B1**

Answer: 134 degrees

Question 5

71 degrees cao **B1**

Answer: 71 degrees

Question 6

63 degrees cao **B1**

Answer: 63 degrees

Question 7

32 degrees cao **B1**

Answer: 32 degrees

Question 8

90 - 34 **M1**

n = 56 cao **A1**

Answer: n = 56 degrees

Question 9

states angles in a quadrilateral sum to 360 (degrees) oe **B1**

360 - 80 - 95 - 110 **M1**

k = 75 cao **A1**

Answer: k = 75 degrees

Question 10

(a) bearings are always written using three figures (digits) oe **B1**

(a) Answer: Bearings are always written using three figures.

(b) 065 + 180 **M1**

(b) 245 cao **A1**

(b) Answer: 245 degrees

Question 11

(a) (5 - 2) x 180 **M1**

(a) 540 cao **A1**

(a) Answer: 540 degrees

(b) 540 / 5 **M1**

(b) 108 cao **A1**

(b) Answer: 108 degrees

Question 12

4 x 30 **M1**

120 cao **A1**

Answer: 120 degrees

Question 13

75 + 75 or 2 x 75 **M1**

30 degrees cao **A1**

angles in a triangle add up to 180 **B1**

Answer: 30 degrees

Question 14

180 - 103 **M1**

x = 77 cao **A1**

Angles on a straight line add up to 180 degrees **B1**

Answer: x = 77; angles on a straight line add up to 180 degrees

Question 15

x + 4x + 5x = 180 **M1**

10x = 180 or x = 18 **M1**

90 degrees cao **A1**

Answer: 90 degrees

Question 16

360 - (90 + 92 + 118) **M1**

60 degrees cao **A1**

angles in a quadrilateral add up to 360 degrees **B1**

Answer: 60 degrees

Question 17

35 + 35 or 2 x 35 **M1**

110 degrees cao **A1**

angles in a triangle add up to 180 **B1**

Answer: 110 degrees

Question 18

360 - 123 **M1**

x = 237 cao **A1**

Angles around a point add up to 360 degrees **B1**

Answer: x = 237; angles around a point add up to 360 degrees

Question 19

(a) S = 72 cao **B1**

(a) correct reason given, e.g. co-interior (allied) angles between parallel lines sum to 180 oe **B1**

(a) Answer: S = 72 degrees

(b) states angles in a quadrilateral sum to 360 (degrees) oe **B1**

(b) 360 - 108 - 95 - 72 **M1**

(b) w = 85 cao, ft their angle S **A1**

(b) Answer: w = 85 degrees

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