2.93 Angles on Lines, at Points and in Triangles: 30-minute Pack

GL ASSESSMENT GL-11PLUS-MATHS · Calculators not allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Three angles in a quadrilateral are 45°, 55° and 70°. What is the fourth angle?

- ☐ A) 190°
- ☐ B) 260°
- ☐ C) 180°
- ☐ D) 170°
- ☐ E) 10°

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2 An isosceles triangle has an angle of 132° between its two equal sides. What is the size of each of the other two angles?

- ☐ A) 25°
- ☐ B) 48°
- ☐ C) 132°
- ☐ D) 24°
- ☐ E) 114°

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3 The angles around a point are x°, 3x°. What is the value of x?

- ☐ A) 270
- ☐ B) 91
- ☐ C) 120
- ☐ D) 89
- ☐ E) 90

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4 Three angles in a quadrilateral are 85°, 85° and 50°. What is the fourth angle?

- ☐ A) 40°
- ☐ B) 220°
- ☐ C) 140°
- ☐ D) 190°
- ☐ E) 130°

---

5 Two angles in a triangle are 75° and 80°. What is the third angle?

- ☐ A) 205°
- ☐ B) 155°
- ☐ C) 35°
- ☐ D) 15°
- ☐ E) 25°

---

6 The angles around a point are 2x°, 3x°, 4x°. What is the size of the largest angle?

- ☐ A) 200°
- ☐ B) 160°
- ☐ C) 40°
- ☐ D) 90°
- ☐ E) 120°

---

7 Three angles in a quadrilateral are 135°, 75° and 60°. What is the fourth angle?

- ☐ A) 270°
- ☐ B) 80°
- ☐ C) 150°
- ☐ D) 90°
- ☐ E) 100°

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8 An isosceles triangle has an angle of 62° between its two equal sides. What is the size of each of the other two angles?

- ☐ A) 118°
- ☐ B) 28°
- ☐ C) 59°
- ☐ D) 31°
- ☐ E) 62°

---

9 The angles on a straight line are x°, 4x°, 5x°. What is the size of the largest angle?

- ☐ A) 18°
- ☐ B) 90°
- ☐ C) 36°
- ☐ D) 180°
- ☐ E) 60°

---

10 Three angles in a quadrilateral are 105°, 60° and 70°. What is the fourth angle?

- ☐ A) 55°
- ☐ B) 135°
- ☐ C) 125°
- ☐ D) 115°
- ☐ E) 235°

---

11 Angles around a point are 75° and 35° and x. What is the size of angle x?

- ☐ A) 250°
- ☐ B) 70°
- ☐ C) 260°
- ☐ D) 240°
- ☐ E) 110°

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12 The angles on a straight line are x°, 2x°. What is the size of the smallest angle?

- ☐ A) 61°
- ☐ B) 120°
- ☐ C) 90°
- ☐ D) 59°
- ☐ E) 60°

---

13 Three angles in a quadrilateral are 115°, 90° and 65°. What is the fourth angle?

- ☐ A) 80°
- ☐ B) 155°
- ☐ C) 270°
- ☐ D) 90°
- ☐ E) 100°

---

14 Two angles in a triangle are 95° and 55°. What is the third angle?

- ☐ A) 30°
- ☐ B) 210°
- ☐ C) 150°
- ☐ D) 20°
- ☐ E) 40°

---

15 Angles around a point are 115°, 20° and 155° and x. What is the size of angle x?

- ☐ A) 60°
- ☐ B) 200°
- ☐ C) 70°
- ☐ D) 290°
- ☐ E) 80°

---

16 The angles on a straight line are 3x°, 4x°, 5x°. What is the value of x?

- ☐ A) 36
- ☐ B) 15
- ☐ C) 14
- ☐ D) 165
- ☐ E) 75

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17 Three angles in a quadrilateral are 65°, 110° and 70°. What is the fourth angle?

- ☐ A) 245°
- ☐ B) 115°
- ☐ C) 65°
- ☐ D) 105°
- ☐ E) 125°

---

18 Two angles on a straight line are 155° and x. What is the size of angle x?

- ☐ A) 15°
- ☐ B) 65°
- ☐ C) 155°
- ☐ D) 25°
- ☐ E) 205°

---

19 The angles on a straight line are 2x°, 3x°. What is the value of x?

- ☐ A) 35
- ☐ B) 144
- ☐ C) 60
- ☐ D) 72
- ☐ E) 36

---

20 Three angles in a quadrilateral are 100°, 125° and 60°. What is the fourth angle?

- ☐ A) 75°
- ☐ B) 65°
- ☐ C) 135°
- ☐ D) 105°
- ☐ E) 285°

---

21 Angles on a straight line are 45° and 80° and x. What is the size of angle x?

- ☐ A) 125°
- ☐ B) 65°
- ☐ C) 235°
- ☐ D) 55°
- ☐ E) 45°

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22 The angles on a straight line are x°, 3x°. What is the size of the largest angle?

- [ ] A) 135°
- [ ] B) 270°
- [ ] C) 45°
- [ ] D) 134°
- [ ] E) 60°

---

23 Three angles in a quadrilateral are 90°, 130° and 55°. What is the fourth angle?

- [ ] A) 140°
- [ ] B) 275°
- [ ] C) 95°
- [ ] D) 75°
- [ ] E) 85°

---

24 Angles around a point are 305° and 30° and x. What is the size of angle x?

- [ ] A) 15°
- [ ] B) 25°
- [ ] C) 35°
- [ ] D) 335°
- [ ] E) 245°

---

25 The angles around a point are x°, 2x°, 3x°. What is the value of x?

- [ ] A) 30
- [ ] B) 300
- [ ] C) 60
- [ ] D) 120
- [ ] E) 59

---

26 Three angles in a quadrilateral are 80°, 85° and 130°. What is the fourth angle?

- [ ] A) 75°
- [ ] B) 115°
- [ ] C) 55°
- [ ] D) 295°
- [ ] E) 65°

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27 An isosceles triangle has an angle of 124° between its two equal sides. What is the size of each of the other two angles?

- ☐ A) 28°
- ☐ B) 124°
- ☐ C) 56°
- ☐ D) 62°
- ☐ E) 34°

---

28 Angles on a straight line are 40° and 75° and x. What is the size of angle x?

- ☐ A) 245°
- ☐ B) 55°
- ☐ C) 115°
- ☐ D) 65°
- ☐ E) 75°

---

29 The angles around a point are 3x°, 4x°, 5x°. What is the size of the largest angle?

- ☐ A) 30°
- ☐ B) 210°
- ☐ C) 150°
- ☐ D) 75°
- ☐ E) 120°

---

30 Triangle DEF is isosceles with DE = DF. The base angles are (x + 15) degrees and (2x - 5) degrees.

(a) Find x. **(2)**

.....

(b) Find the three angles. **(1)**

.....

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Mark scheme · 2.93 Angles on Lines, at Points and in Triangles: 30-minute Pack

Question 1

correct option A (190°) cao **B1**

Answer: A) 190°

Question 2

correct option D (24°) cao **B1**

Answer: D) 24°

Question 3

correct option E (90) cao **B1**

Answer: E) 90

Question 4

correct option C (140°) cao **B1**

Answer: C) 140°

Question 5

correct option E (25°) cao **B1**

Answer: E) 25°

Question 6

correct option B (160°) cao **B1**

Answer: B) 160°

Question 7

correct option D (90°) cao **B1**

Answer: D) 90°

Question 8

correct option C (59°) cao **B1**

Answer: C) 59°

Question 9

correct option B (90°) cao **B1**

Answer: B) 90°

Question 10

correct option C (125°) cao **B1**

Answer: C) 125°

Question 11

correct option A (250°) cao **B1**

Answer: A) 250°

Question 12

correct option E (60°) cao **B1**

Answer: E) 60°

Question 13

correct option D (90°) cao **B1**

Answer: D) 90°

Question 14

correct option A (30°) cao **B1**

Answer: A) 30°

Question 15

correct option C (70°) cao **B1**

Answer: C) 70°

Question 16

correct option B (15) cao **B1**

Answer: B) 15

Question 17

correct option B (115°) cao **B1**

Answer: B) 115°

Question 18

correct option D (25°) cao **B1**

Answer: D) 25°

Question 19

correct option E (36) cao **B1**

Answer: E) 36

Question 20

correct option A (75°) cao **B1**

Answer: A) 75°

Question 21

correct option D (55°) cao **B1**

Answer: D) 55°

Question 22

correct option A (135°) cao **B1**

Answer: A) 135°

Question 23

correct option E (85°) cao **B1**

Answer: E) 85°

Question 24

correct option B (25°) cao **B1**

Answer: B) 25°

Question 25

correct option C (60) cao **B1**

Answer: C) 60

Question 26

correct option E (65°) cao **B1**

Answer: E) 65°

Question 27

correct option A (28°) cao **B1**

Answer: A) 28°

Question 28

correct option D (65°) cao **B1**

Answer: D) 65°

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Question 29

correct option C (150°) cao **B1**

Answer: C) 150°

Question 30

(a) use equality of base angles: x + 15 = 2x - 5 or equivalent; accept an equivalent route to the same value without algebra, such as trial and improvement **M1**

(a) x = 20 cao **A1**

(a) Answer: x = 20

(b) angles 35, 35 and 110 degrees cao **A1**

(b) Answer: Base angles are 35 degrees and 35 degrees, vertex angle = 110 degrees.

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