2.93 Angles on Lines, at Points and in Triangles: 1-hour Pack

Total Marks

GL ASSESSMENT GL-11PLUS-MATHS · Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Three angles in a quadrilateral are 45°, 40° and 115°. What is the fourth angle?

- ☐ A) 20°
- ☐ B) 150°
- ☐ C) 275°
- ☐ D) 200°
- ☐ E) 160°

---

2 Angles around a point are 165°, 95° and 50° and x. What is the size of angle x?

- ☐ A) 50°
- ☐ B) 220°
- ☐ C) 60°
- ☐ D) 310°
- ☐ E) 40°

---

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

- ☐ A) 30°
- ☐ B) 300°
- ☐ C) 90°
- ☐ D) 150°
- ☐ E) 36°

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4 Three angles in a quadrilateral are 55°, 85° and 95°. What is the fourth angle?

- ☐ A) 125°
- ☐ B) 220°
- ☐ C) 55°
- ☐ D) 235°
- ☐ E) 115°

---

5 Two angles in a triangle are 25° and 25°. What is the third angle?

- ☐ A) 120°
- ☐ B) 50°
- ☐ C) 140°
- ☐ D) 130°
- ☐ E) 310°

---

6 Angles around a point are 30° and 140° and x. What is the size of angle x?

- ☐ A) 200°
- ☐ B) 10°
- ☐ C) 190°
- ☐ D) 170°
- ☐ E) 180°

---

7 The angles on a straight line are 3x°, 4x°, 5x°. What is the size of the smallest angle?

- ☐ A) 44°
- ☐ B) 45°
- ☐ C) 135°
- ☐ D) 60°
- ☐ E) 15°

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8 An isosceles triangle has an angle of 46° between its two equal sides. What is the size of each of the other two angles?

- [ ] A) 134°
- [ ] B) 67°
- [ ] C) 44°
- [ ] D) 23°
- [ ] E) 46°

---

9 Angles around a point are 80° and 225° and x. What is the size of angle x?

- [ ] A) 65°
- [ ] B) 45°
- [ ] C) 55°
- [ ] D) 215°
- [ ] E) 305°

---

10 The angles on a straight line are x°, 2x°, 3x°, 4x°. What is the size of the smallest angle?

- [ ] A) 18°
- [ ] B) 36°
- [ ] C) 45°
- [ ] D) 162°
- [ ] E) 19°

---

11 Three angles in a quadrilateral are 40°, 115° and 110°. What is the fourth angle?

- [ ] A) 205°
- [ ] B) 105°
- [ ] C) 85°
- [ ] D) 265°
- [ ] E) 95°

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12 An isosceles triangle has an angle of 82° between its two equal sides. What is the size of each of the other two angles?

- [ ] A) 48°
- [ ] B) 8°
- [ ] C) 82°
- [ ] D) 49°
- [ ] E) 98°

---

13 Angles around a point are 30°, 105° and 80° and x. What is the size of angle x?

- [ ] A) 145°
- [ ] B) 155°
- [ ] C) 215°
- [ ] D) 125°
- [ ] E) 135°

---

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

- [ ] A) 240
- [ ] B) 180
- [ ] C) 60
- [ ] D) 119
- [ ] E) 120

---

15 Three angles in a quadrilateral are 90°, 95° and 45°. What is the fourth angle?

- [ ] A) 140°
- [ ] B) 230°
- [ ] C) 130°
- [ ] D) 50°
- [ ] E) 175°

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16 An isosceles triangle has an angle of 102° between its two equal sides. What is the size of each of the other two angles?

- [ ] A) 102°
- [ ] B) 40°
- [ ] C) 38°
- [ ] D) 78°
- [ ] E) 39°

---

17 Angles around a point are 95° and 190° and x. What is the size of angle x?

- [ ] A) 195°
- [ ] B) 75°
- [ ] C) 65°
- [ ] D) 285°
- [ ] E) 85°

---

18 Three angles in a quadrilateral are 60°, 65° and 130°. What is the fourth angle?

- [ ] A) 75°
- [ ] B) 115°
- [ ] C) 255°
- [ ] D) 235°
- [ ] E) 105°

---

19 An isosceles triangle has two equal base angles of 78° each. What is the third angle?

- [ ] A) 24°
- [ ] B) 78°
- [ ] C) 102°
- [ ] D) 156°
- [ ] E) 204°

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20 Angles on a straight line are 20° and 75° and x. What is the size of angle x?

- [ ] A) 265°
- [ ] B) 85°
- [ ] C) 95°
- [ ] D) 5°
- [ ] E) 75°

---

21 Three angles in a quadrilateral are 40°, 125° and 60°. What is the fourth angle?

- [ ] A) 135°
- [ ] B) 125°
- [ ] C) 195°
- [ ] D) 45°
- [ ] E) 225°

---

22 Three angles in a quadrilateral are 135°, 50° and 85°. What is the fourth angle?

- [ ] A) 270°
- [ ] B) 100°
- [ ] C) 90°
- [ ] D) 175°
- [ ] E) 80°

---

23 Two angles in a triangle are 55° and 45°. What is the third angle?

- [ ] A) 70°
- [ ] B) 100°
- [ ] C) 260°
- [ ] D) 90°
- [ ] E) 80°

---

24 Two angles on a straight line are 80° and x. What is the size of angle x?

- [ ] A) 110°
- [ ] B) 90°
- [ ] C) 280°
- [ ] D) 100°
- [ ] E) 80°

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

- [ ] A) 36
- [ ] B) 72
- [ ] C) 288
- [ ] D) 216
- [ ] E) 120

---

26 Three angles in a quadrilateral are 85°, 110° and 90°. What is the fourth angle?

- [ ] A) 85°
- [ ] B) 105°
- [ ] C) 75°
- [ ] D) 285°
- [ ] E) 65°

---

27 Two angles in a triangle are 45° and 35°. What is the third angle?

- [ ] A) 280°
- [ ] B) 90°
- [ ] C) 110°
- [ ] D) 100°
- [ ] E) 80°

---

28 The angles around a point are x°, 3x°. What is the size of the smallest angle?

- [ ] A) 90°
- [ ] B) 120°
- [ ] C) 89°
- [ ] D) 270°
- [ ] E) 180°

---

29 Three angles in a quadrilateral are 135°, 85° and 55°. What is the fourth angle?

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

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30 Two angles in a triangle are 95° and 65°. What is the third angle?

- ☐ A) 160°
- ☐ B) 30°
- ☐ C) 20°
- ☐ D) 200°
- ☐ E) 65°

---

31 Two angles in a triangle are 40° and 70°. What is the third angle?

- ☐ A) 110°
- ☐ B) 60°
- ☐ C) 70°
- ☐ D) 80°
- ☐ E) 250°

---

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

- ☐ A) 135°
- ☐ B) 90°
- ☐ C) 60°
- ☐ D) 46°
- ☐ E) 45°

---

33 Three angles in a quadrilateral are 40°, 40° and 50°. What is the fourth angle?

- ☐ A) 280°
- ☐ B) 230°
- ☐ C) 130°
- ☐ D) 50°
- ☐ E) 220°

---

34 Angles on a straight line are 55° and 100° and x. What is the size of angle x?

- ☐ A) 25°
- ☐ B) 35°
- ☐ C) 155°
- ☐ D) 205°
- ☐ E) 65°

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

- [ ] A) 180°
- [ ] B) 90°
- [ ] C) 179°
- [ ] D) 120°
- [ ] E) 181°

---

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

- [ ] A) 90°
- [ ] B) 100°
- [ ] C) 280°
- [ ] D) 70°
- [ ] E) 80°

---

37 Two angles in a triangle are 20° and 70°. What is the third angle?

- [ ] A) 100°
- [ ] B) 270°
- [ ] C) 80°
- [ ] D) 90°
- [ ] E) 70°

---

38 Angles around a point are 25° and 140° and x. What is the size of angle x?

- [ ] A) 185°
- [ ] B) 195°
- [ ] C) 165°
- [ ] D) 15°
- [ ] E) 205°

---

39 The angles on a straight line are 3x°, 4x°, 5x°. What is the size of the largest angle?

- [ ] A) 36°
- [ ] B) 105°
- [ ] C) 75°
- [ ] D) 15°
- [ ] E) 60°

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40 Three angles in a quadrilateral are 70°, 130° and 55°. What is the fourth angle?

- ☐ A) 115°
- ☐ B) 75°
- ☐ C) 160°
- ☐ D) 105°
- ☐ E) 255°

---

41 An isosceles triangle has an angle of 134° between its two equal sides. What is the size of each of the other two angles?

- ☐ A) 134°
- ☐ B) 23°
- ☐ C) 24°
- ☐ D) 113°
- ☐ E) 46°

---

42 Angles around a point are 10°, 230° and 55° and x. What is the size of angle x?

- ☐ A) 205°
- ☐ B) 295°
- ☐ C) 55°
- ☐ D) 75°
- ☐ E) 65°

---

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

- ☐ A) 180°
- ☐ B) 120°
- ☐ C) 240°
- ☐ D) 239°
- ☐ E) 241°

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44 Two angles in a triangle are 60° and 95°. What is the third angle?

- [ ] A) 25°
- [ ] B) 30°
- [ ] C) 205°
- [ ] D) 35°
- [ ] E) 155°

---

45 Two angles on a straight line are 35° and x. What is the size of angle x?

- [ ] A) 325°
- [ ] B) 35°
- [ ] C) 55°
- [ ] D) 135°
- [ ] E) 145°

---

46 The angles on a straight line are x°, 2x°, 3x°, 4x°. What is the size of the largest angle?

- [ ] A) 18°
- [ ] B) 72°
- [ ] C) 144°
- [ ] D) 108°
- [ ] E) 45°

---

47 An isosceles triangle has an angle of 72° between its two equal sides. What is the size of each of the other two angles?

- [ ] A) 55°
- [ ] B) 53°
- [ ] C) 72°
- [ ] D) 54°
- [ ] E) 108°

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48 Angles on a straight line are 30° and 135° and x. What is the size of angle x?

- [ ] A) 15°
- [ ] B) 165°
- [ ] C) 75°
- [ ] D) 25°
- [ ] E) 195°

---

49 Four angles around a point are 140 degrees, 85 degrees, 45 degrees and x degrees. Calculate x.

- [ ] A) 75
- [ ] B) 80
- [ ] C) 85
- [ ] D) 90
- [ ] E) 95

---

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

- [ ] A) 120°
- [ ] B) 179°
- [ ] C) 90°
- [ ] D) 60°
- [ ] E) 180°

---

51 The angles around a point are 3x°, 4x°, 5x°. What is the value of x?

- [ ] A) 29
- [ ] B) 30
- [ ] C) 72
- [ ] D) 150
- [ ] E) 330

---

52 Three angles in a quadrilateral are 105°, 130° and 55°. What is the fourth angle?

- [ ] A) 80°
- [ ] B) 110°
- [ ] C) 70°
- [ ] D) 60°
- [ ] E) 290°

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53 Two angles in a triangle are 85° and 60°. What is the third angle?

- [ ] A) 45°
- [ ] B) 35°
- [ ] C) 5°
- [ ] D) 215°
- [ ] E) 145°

---

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

- [ ] A) 29
- [ ] B) 31
- [ ] C) 150
- [ ] D) 36
- [ ] E) 30

---

55 Three angles in a quadrilateral are 55°, 100° and 115°. What is the fourth angle?

- [ ] A) 100°
- [ ] B) 90°
- [ ] C) 205°
- [ ] D) 80°
- [ ] E) 270°

---

56 An isosceles triangle has an angle of 54° between its two equal sides. What is the size of each of the other two angles?

- [ ] A) 153°
- [ ] B) 126°
- [ ] C) 63°
- [ ] D) 62°
- [ ] E) 54°

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

- [ ] A) 120
- [ ] B) 61
- [ ] C) 90
- [ ] D) 60
- [ ] E) 59

---

58 Three angles in a quadrilateral are 90°, 70° and 100°. What is the fourth angle?

- [ ] A) 90°
- [ ] B) 80°
- [ ] C) 260°
- [ ] D) 110°
- [ ] E) 100°

---

59 Three angles in a quadrilateral are 110°, 90° and 110°. What is the fourth angle?

- [ ] A) 130°
- [ ] B) 310°
- [ ] C) 40°
- [ ] D) 50°
- [ ] E) 60°

---

60 Two angles on a straight line are 10° and x. What is the size of angle x?

- [ ] A) 350°
- [ ] B) 160°
- [ ] C) 170°
- [ ] D) 80°
- [ ] E) 10°

---

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

- [ ] A) 144°
- [ ] B) 145°
- [ ] C) 90°
- [ ] D) 216°
- [ ] E) 36°

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62 Three angles in a quadrilateral are 85°, 90° and 45°. What is the fourth angle?

- ☐ A) 40°
- ☐ B) 140°
- ☐ C) 150°
- ☐ D) 130°
- ☐ E) 220°

---

63 Calculate x and find the size of each angle.

(2)

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Mark scheme · 2.93 Angles on Lines, at Points and in Triangles: 1-hour Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

correct option E (160°) cao **B1**

Answer: E) 160°

Question 2

correct option A (50°) cao **B1**

Answer: A) 50°

Question 3

correct option D (150°) cao **B1**

Answer: D) 150°

Question 4

correct option A (125°) cao **B1**

Answer: A) 125°

Question 5

correct option D (130°) cao **B1**

Answer: D) 130°

Question 6

correct option C (190°) cao **B1**

Answer: C) 190°

Question 7

correct option B (45°) cao **B1**

Answer: B) 45°

Question 8

correct option B (67°) cao **B1**

Answer: B) 67°

Question 9

correct option C (55°) cao **B1**

Answer: C) 55°

Question 10

correct option A (18°) cao **B1**

Answer: A) 18°

Question 11

correct option E (95°) cao **B1**

Answer: E) 95°

Question 12

correct option D (49°) cao **B1**

Answer: D) 49°

Question 13

correct option A (145°) cao **B1**

Answer: A) 145°

Question 14

correct option E (120) cao **B1**

Answer: E) 120

Question 15

correct option C (130°) cao **B1**

Answer: C) 130°

Question 16

correct option E (39°) cao **B1**

Answer: E) 39°

Question 17

correct option B (75°) cao **B1**

Answer: B) 75°

Question 18

correct option E (105°) cao **B1**

Answer: E) 105°

Question 19

correct option A (24°) cao **B1**

Answer: A) 24°

Question 20

correct option B (85°) cao **B1**

Answer: B) 85°

Question 21

correct option A (135°) cao **B1**

Answer: A) 135°

Question 22

correct option C (90°) cao **B1**

Answer: C) 90°

Question 23

correct option E (80°) cao **B1**

Answer: E) 80°

Question 24

correct option D (100°) cao **B1**

Answer: D) 100°

Question 25

correct option B (72) cao **B1**

Answer: B) 72

Question 26

correct option C (75°) cao **B1**

Answer: C) 75°

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Question 27

correct option D (100°) cao **B1**

Answer: D) 100°

Question 28

correct option A (90°) cao **B1**

Answer: A) 90°

Question 29

correct option B (85°) cao **B1**

Answer: B) 85°

Question 30

correct option C (20°) cao **B1**

Answer: C) 20°

Question 31

correct option C (70°) cao **B1**

Answer: C) 70°

Question 32

correct option E (45°) cao **B1**

Answer: E) 45°

Question 33

correct option B (230°) cao **B1**

Answer: B) 230°

Question 34

correct option A (25°) cao **B1**

Answer: A) 25°

Question 35

correct option A (180°) cao **B1**

Answer: A) 180°

Question 36

correct option E (80°) cao **B1**

Answer: E) 80°

Question 37

correct option D (90°) cao **B1**

Answer: D) 90°

Question 38

correct option B (195°) cao **B1**

Answer: B) 195°

Question 39

correct option C (75°) cao **B1**

Answer: C) 75°

Question 40

correct option D (105°) cao **B1**

Answer: D) 105°

Question 41

correct option B (23°) cao **B1**

Answer: B) 23°

Question 42

correct option E (65°) cao **B1**

Answer: E) 65°

Question 43

correct option C (240°) cao **B1**

Answer: C) 240°

Question 44

correct option A (25°) cao **B1**

Answer: A) 25°

Question 45

correct option E (145°) cao **B1**

Answer: E) 145°

Question 46

correct option B (72°) cao **B1**

Answer: B) 72°

Question 47

correct option D (54°) cao **B1**

Answer: D) 54°

Question 48

correct option A (15°) cao **B1**

Answer: A) 15°

Question 49

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

Answer: D) 90 degrees (360 - (140 + 85 + 45) = 90).

Question 50

correct option E (180°) cao **B1**

Answer: E) 180°

Question 51

correct option B (30) cao **B1**

Answer: B) 30

Question 52

correct option C (70°) cao **B1**

Answer: C) 70°

Question 53

correct option B (35°) cao **B1**

Answer: B) 35°

Question 54

correct option E (30) cao **B1**

Answer: E) 30

Question 55

correct option B (90°) cao **B1**

Answer: B) 90°

Question 56

correct option C (63°) cao **B1**

Answer: C) 63°

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Question 57

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

Answer: D) 60

Question 58

correct option E (100°) cao **B1**

Answer: E) 100°

Question 59

correct option D (50°) cao **B1**

Answer: D) 50°

Question 60

correct option C (170°) cao **B1**

Answer: C) 170°

Question 61

correct option A (144°) cao **B1**

Answer: A) 144°

Question 62

correct option B (140°) cao **B1**

Answer: B) 140°

Question 63

form correct equation $3x + 2x + x = 180$ or $6x = 180$ seen **M1**

$x = 30$ and angles 90, 60, 30 cao **A1**

Answer: x = 30. The angles are 3x = 90 degrees, 2x = 60 degrees, x = 30 degrees.

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