2.11 Perimeter, Area and Volume: 1-hour Pack

GL ASSESSMENT GL · Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

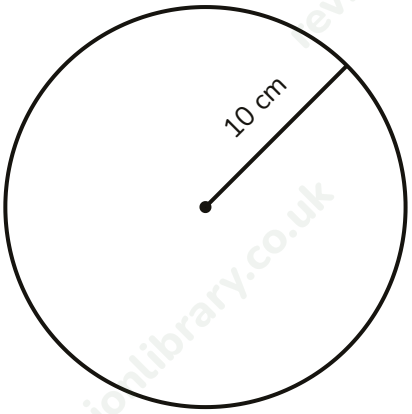
1 A rectangular garden has a perimeter of 102 m. Its length is 27 m. What is its width?

- ☐ A) 48 m
- ☐ B) 25 m
- ☐ C) 75 m
- ☐ D) 24 m
- ☐ E) 23 m

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2 A circle has a radius of 10 cm.

Diagram NOT accurately drawn



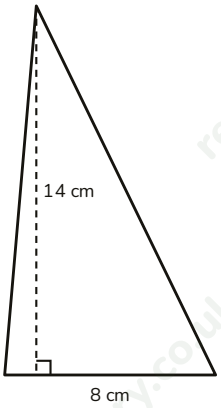
(not to scale)

(a) Write down the length of the diameter of the circle, and explain how you worked it out. **(2)**

(b) A square is drawn so that the circle just fits inside it, touching all four sides. Work out the area of the square. **(2)**

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3 A triangle has a base of 8 cm and a perpendicular height of 14 cm. What is its area?



- ☐ A) 56 cm²
- ☐ B) 57 cm²
- ☐ C) 112 cm²
- ☐ D) 22 cm²
- ☐ E) 44 cm²

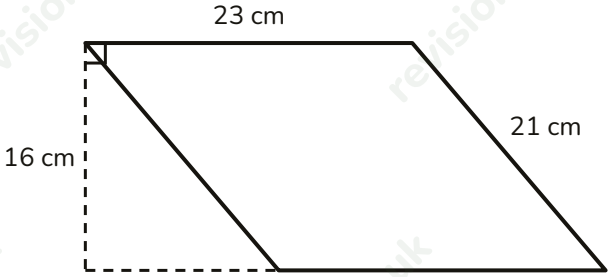
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4 A square garden has a perimeter of 48 m. How long is each side?

- ☐ A) 144 m
- ☐ B) 24 m
- ☐ C) 12 m
- ☐ D) 13 m
- ☐ E) 192 m

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5 A parallelogram has a base of 23 cm, a sloping side of 21 cm and a perpendicular height of 16 cm. What is its area?



- ☐ A) 368 cm²
- ☐ B) 39 cm²
- ☐ C) 7,728 cm²
- ☐ D) 184 cm²
- ☐ E) 483 cm²

---

6 A rectangular patio is 22 m long and 19 m wide. What is its perimeter?

- ☐ A) 63 m
- ☐ B) 83 m
- ☐ C) 41 m
- ☐ D) 418 m
- ☐ E) 82 m

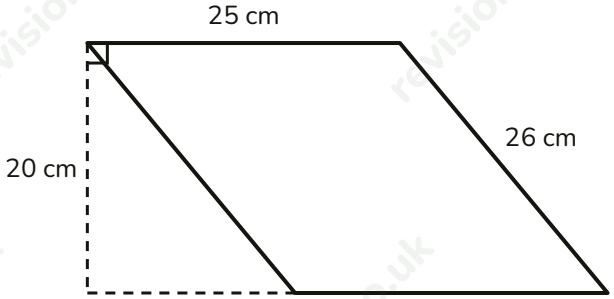
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7 A rectangular patio measures 6 m by 37 m. What is its area?

- ☐ A) 221 m²
- ☐ B) 222 m²
- ☐ C) 43 m²
- ☐ D) 112 m²
- ☐ E) 86 m²

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8 A parallelogram has a base of 25 cm, a sloping side of 26 cm and a perpendicular height of 20 cm. What is its area?



- ☐ A) 250 cm²
- ☐ B) 501 cm²
- ☐ C) 102 cm²
- ☐ D) 650 cm²
- ☐ E) 500 cm²

---

9 A rectangular allotment has a perimeter of 102 m. Its length is 40 m. What is its width?

- ☐ A) 10 m
- ☐ B) 11 m
- ☐ C) 62 m
- ☐ D) 12 m
- ☐ E) 22 m

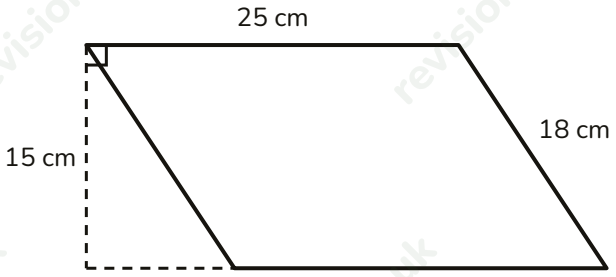
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10 A rectangular patio has an area of 45 square metres and is 5 m long. How wide is it?

- ☐ A) 225 m
- ☐ B) 7 m
- ☐ C) 40 m
- ☐ D) 9 m
- ☐ E) 8 m

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11 A parallelogram has a base of 25 cm, a sloping side of 18 cm and a perpendicular height of 15 cm. What is its area?



- ☐ A) 6,750 cm²
- ☐ B) 450 cm²
- ☐ C) 375 cm²
- ☐ D) 86 cm²
- ☐ E) 187.5 cm²

---

12 A rectangular playground has a perimeter of 54 m. Its length is 15 m. What is its width?

- ☐ A) 12 m
- ☐ B) 13 m
- ☐ C) 11 m
- ☐ D) 24 m
- ☐ E) 39 m

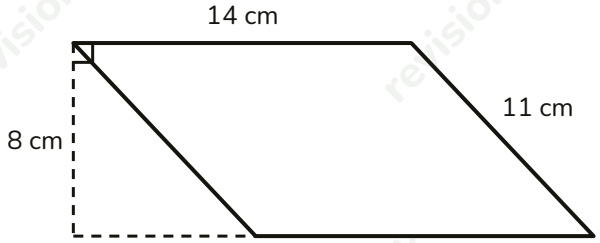
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13 A floor measures 2 m by 3 m. It is covered with square tiles of side 25 cm. How many tiles are needed?

- ☐ A) 96
- ☐ B) 6
- ☐ C) 20
- ☐ D) 40
- ☐ E) 192

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14 A parallelogram has a base of 14 cm, a sloping side of 11 cm and a perpendicular height of 8 cm. What is its area?



- ☐ A) 154 cm²
- ☐ B) 112 cm²
- ☐ C) 22 cm²
- ☐ D) 56 cm²
- ☐ E) 1,232 cm²

---

15 A rectangular sports hall has a perimeter of 82 m. Its length is 23 m. What is its width?

- ☐ A) 59 m
- ☐ B) 19 m
- ☐ C) 17 m
- ☐ D) 18 m
- ☐ E) 36 m

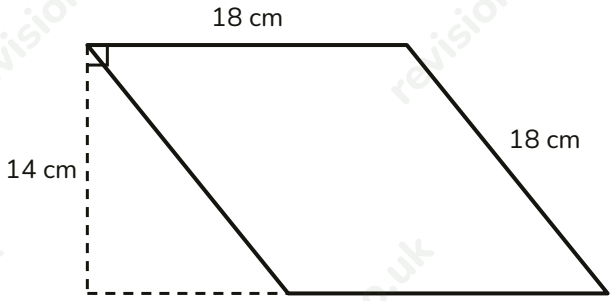
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16 A floor measures 6 m by 5 m. It is covered with square tiles of side 20 cm. How many tiles are needed?

- ☐ A) 55
- ☐ B) 1,500
- ☐ C) 750
- ☐ D) 150
- ☐ E) 30

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17 A parallelogram has a base of 18 cm, a sloping side of 18 cm and a perpendicular height of 14 cm. What is its area?



- ☐ A) 324 cm²
- ☐ B) 72 cm²
- ☐ C) 32 cm²
- ☐ D) 126 cm²
- ☐ E) 252 cm²

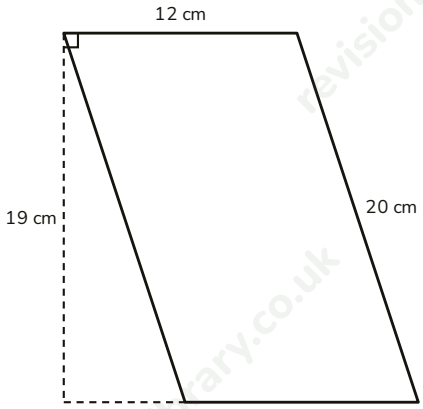
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18 A rectangular allotment has a perimeter of 124 m. Its length is 38 m. What is its width?

- ☐ A) 24 m
- ☐ B) 86 m
- ☐ C) 25 m
- ☐ D) 48 m
- ☐ E) 26 m

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19 A parallelogram has a base of 12 cm, a sloping side of 20 cm and a perpendicular height of 19 cm. What is its area?



- ☐ A) 64 cm²
- ☐ B) 114 cm²
- ☐ C) 229 cm²
- ☐ D) 228 cm²
- ☐ E) 240 cm²

---

20 A rectangular patio is 30 m long and 5 m wide. What is its perimeter?

- ☐ A) 150 m
- ☐ B) 70 m
- ☐ C) 300 m
- ☐ D) 40 m
- ☐ E) 35 m

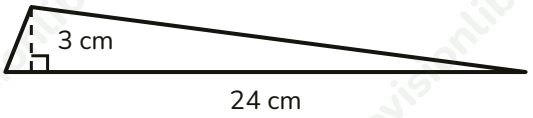
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21 A floor measures 6 m by 4 m. It is covered with square tiles of side 40 cm. How many tiles are needed?

- ☐ A) 60
- ☐ B) 149
- ☐ C) 25
- ☐ D) 24
- ☐ E) 150

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22 A triangle has a base of 24 cm and a perpendicular height of 3 cm. What is its area?



- [ ] A) 27 cm²
- [ ] B) 36 cm²
- [ ] C) 13.5 cm²
- [ ] D) 72 cm²
- [ ] E) 54 cm²

---

23 A rectangular patio is 36 m long and 16 m wide. What is its perimeter?

- [ ] A) 104 m
- [ ] B) 88 m
- [ ] C) 576 m
- [ ] D) 52 m
- [ ] E) 105 m

---

24 A floor measures 3 m by 3 m. It is covered with square tiles of side 20 cm. How many tiles are needed?

- [ ] A) 45
- [ ] B) 224
- [ ] C) 225
- [ ] D) 30
- [ ] E) 9

---

25 A rectangular patio has a perimeter of 44 m. Its length is 18 m. What is its width?

- [ ] A) 5 m
- [ ] B) 26 m
- [ ] C) 8 m
- [ ] D) 6 m
- [ ] E) 4 m

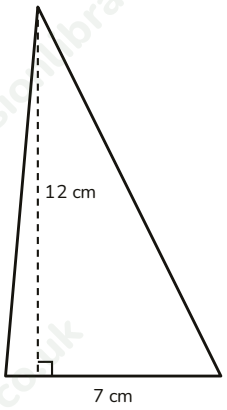
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26 A floor measures 5 m by 5 m. It is covered with square tiles of side 50 cm. How many tiles are needed?

- ☐ A) 100
- ☐ B) 101
- ☐ C) 20
- ☐ D) 99
- ☐ E) 25

---

27 A triangle has a base of 7 cm and a perpendicular height of 12 cm. What is its area?



- ☐ A) 84 cm²
- ☐ B) 19 cm²
- ☐ C) 42 cm²
- ☐ D) 43 cm²
- ☐ E) 41 cm²

---

28 A rectangular garden has an area of 198 square metres and is 9 m long. How wide is it?

- ☐ A) 1,782 m
- ☐ B) 189 m
- ☐ C) 21 m
- ☐ D) 22 m
- ☐ E) 99 m

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29 A rectangular room measures 6 m by 4 m. Carpet costs £12 per square metre.

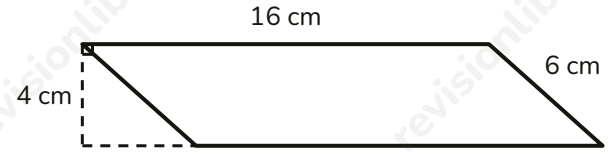
(a) Calculate the area of the room. **(2)**

.....

(b) Calculate the total cost of carpeting the whole room. **(2)**

.....

30 A parallelogram has a base of 16 cm, a sloping side of 6 cm and a perpendicular height of 4 cm. What is its area?



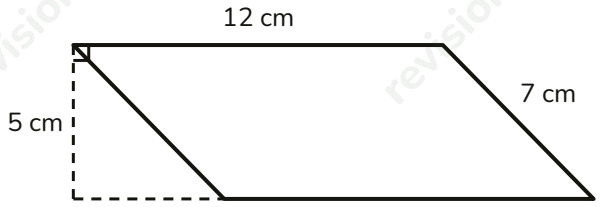
- ☐ A) 384 cm²
- ☐ B) 64 cm²
- ☐ C) 65 cm²
- ☐ D) 96 cm²
- ☐ E) 32 cm²

31 A floor measures 2 m by 4 m. It is covered with square tiles of side 25 cm. How many tiles are needed?

- ☐ A) 256
- ☐ B) 129
- ☐ C) 128
- ☐ D) 8
- ☐ E) 24

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32 A parallelogram has a base of 12 cm, a sloping side of 7 cm and a perpendicular height of 5 cm. What is its area?



- ☐ A) 84 cm²
- ☐ B) 30 cm²
- ☐ C) 61 cm²
- ☐ D) 59 cm²
- ☐ E) 60 cm²

---

33 A rectangular playground has a perimeter of 40 m. Its length is 14 m. What is its width?

- ☐ A) 20 m
- ☐ B) 5 m
- ☐ C) 12 m
- ☐ D) 6 m
- ☐ E) 26 m

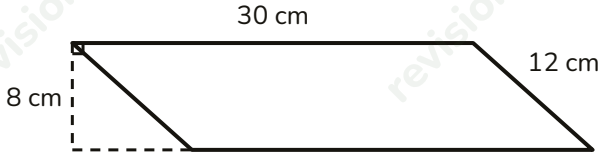
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34 A floor measures 5 m by 3 m. It is covered with square tiles of side 50 cm. How many tiles are needed?

- ☐ A) 60
- ☐ B) 15
- ☐ C) 32
- ☐ D) 16
- ☐ E) 61

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35 A parallelogram has a base of 30 cm, a sloping side of 12 cm and a perpendicular height of 8 cm. What is its area?



- ☐ A) 240 cm²
- ☐ B) 360 cm²
- ☐ C) 120 cm²
- ☐ D) 84 cm²
- ☐ E) 241 cm²

---

36 A rectangular classroom floor is 23 m long and 15 m wide. What is its perimeter?

- ☐ A) 345 m
- ☐ B) 38 m
- ☐ C) 76 m
- ☐ D) 75 m
- ☐ E) 53 m

---

37 A floor measures 5 m by 4 m. It is covered with square tiles of side 20 cm. How many tiles are needed?

- ☐ A) 20
- ☐ B) 45
- ☐ C) 501
- ☐ D) 1,000
- ☐ E) 500

---

38 A rectangular allotment has a perimeter of 64 m. Its length is 18 m. What is its width?

- ☐ A) 46 m
- ☐ B) 16 m
- ☐ C) 28 m
- ☐ D) 14 m
- ☐ E) 32 m

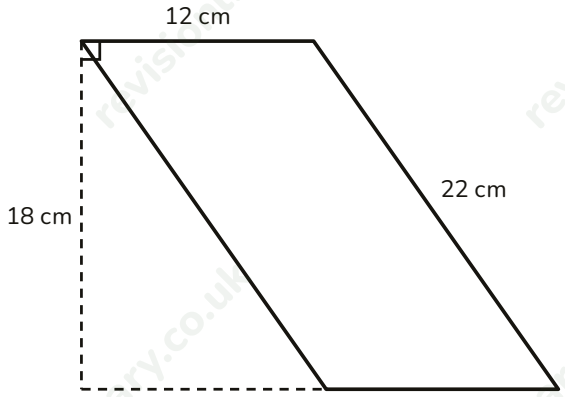
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39 A floor measures 2 m by 2 m. It is covered with square tiles of side 20 cm. How many tiles are needed?

- [ ] A) 200
- [ ] B) 4
- [ ] C) 100
- [ ] D) 20
- [ ] E) 40

---

40 A parallelogram has a base of 12 cm, a sloping side of 22 cm and a perpendicular height of 18 cm. What is its area?



- [ ] A) 216 cm²
- [ ] B) 264 cm²
- [ ] C) 30 cm²
- [ ] D) 108 cm²
- [ ] E) 4,752 cm²

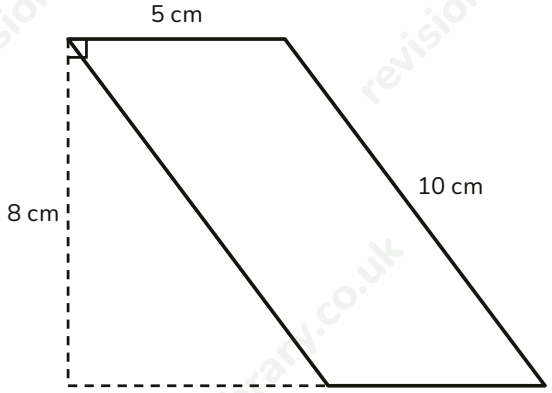
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41 A rectangular playground measures 18 m by 8 m. What is its area?

- [ ] A) 52 m²
- [ ] B) 144 m²
- [ ] C) 26 m²
- [ ] D) 145 m²
- [ ] E) 288 m²

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42 A parallelogram has a base of 5 cm, a sloping side of 10 cm and a perpendicular height of 8 cm. What is its area?



- ☐ A) 20 cm²
- ☐ B) 41 cm²
- ☐ C) 50 cm²
- ☐ D) 400 cm²
- ☐ E) 40 cm²

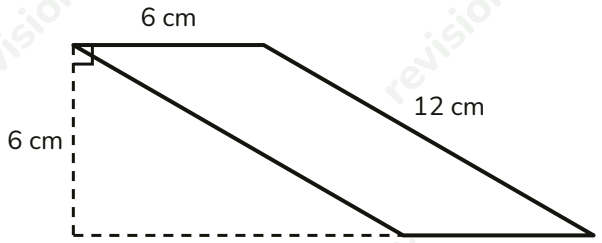
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43 A square playground has a perimeter of 64 m. How long is each side?

- ☐ A) 16 m
- ☐ B) 15 m
- ☐ C) 32 m
- ☐ D) 256 m
- ☐ E) 60 m

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44 A parallelogram has a base of 6 cm, a sloping side of 12 cm and a perpendicular height of 6 cm. What is its area?



- ☐ A) 12 cm²
- ☐ B) 18 cm²
- ☐ C) 36 cm²
- ☐ D) 432 cm²
- ☐ E) 72 cm²

---

45 A rectangular playground is 27 m long and 24 m wide. What is its perimeter?

- ☐ A) 1,296 m
- ☐ B) 51 m
- ☐ C) 78 m
- ☐ D) 648 m
- ☐ E) 102 m

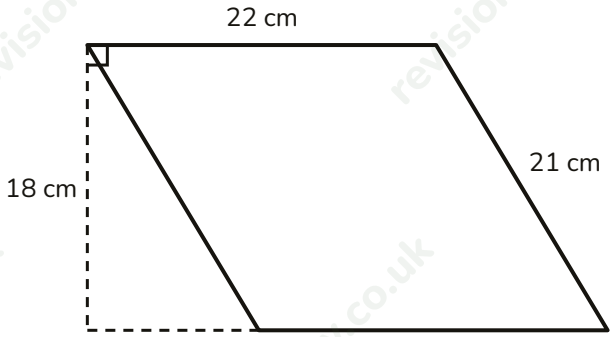
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46 A floor measures 6 m by 3 m. It is covered with square tiles of side 20 cm. How many tiles are needed?

- ☐ A) 45
- ☐ B) 18
- ☐ C) 449
- ☐ D) 450
- ☐ E) 90

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47 A parallelogram has a base of 22 cm, a sloping side of 21 cm and a perpendicular height of 18 cm. What is its area?



- [ ] A) 86 cm²
- [ ] B) 397 cm²
- [ ] C) 198 cm²
- [ ] D) 396 cm²
- [ ] E) 462 cm²

---

48 A rectangular patio is 16 m long and 11 m wide. What is its perimeter?

- [ ] A) 38 m
- [ ] B) 54 m
- [ ] C) 43 m
- [ ] D) 27 m
- [ ] E) 176 m

---

49 A rectangular swimming pool measures 18 m by 13 m. What is its area?

- [ ] A) 234 m²
- [ ] B) 31 m²
- [ ] C) 118 m²
- [ ] D) 62 m²
- [ ] E) 235 m²

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50 A parallelogram has a base of 7 cm, a sloping side of 9 cm and a perpendicular height of 3 cm. What is its area?



- ☐ A) 10 cm²
- ☐ B) 10.5 cm²
- ☐ C) 21 cm²
- ☐ D) 63 cm²
- ☐ E) 32 cm²

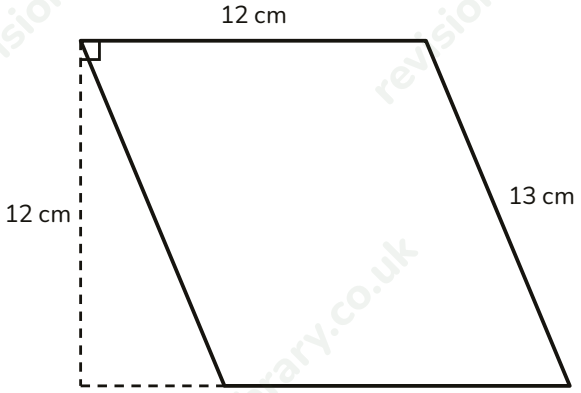
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51 A rectangular garden measures 8 m by 15 m. What is its area?

- ☐ A) 120 m²
- ☐ B) 64 m²
- ☐ C) 61 m²
- ☐ D) 23 m²
- ☐ E) 46 m²

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52 A parallelogram has a base of 12 cm, a sloping side of 13 cm and a perpendicular height of 12 cm. What is its area?



- ☐ A) 145 cm²
- ☐ B) 50 cm²
- ☐ C) 156 cm²
- ☐ D) 144 cm²
- ☐ E) 72 cm²

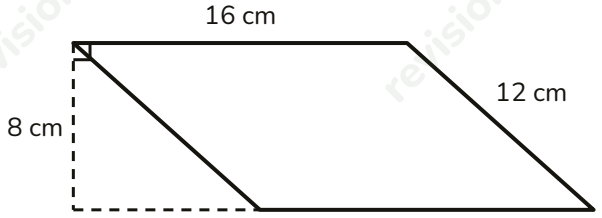
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53 A square allotment has a perimeter of 28 m. How long is each side?

- ☐ A) 8 m
- ☐ B) 24 m
- ☐ C) 14 m
- ☐ D) 49 m
- ☐ E) 7 m

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54 A parallelogram has a base of 16 cm, a sloping side of 12 cm and a perpendicular height of 8 cm. What is its area?



- ☐ A) 129 cm²
- ☐ B) 64 cm²
- ☐ C) 128 cm²
- ☐ D) 192 cm²
- ☐ E) 24 cm²

---

55 A rectangular patio has a perimeter of 64 m. Its length is 29 m. What is its width?

- ☐ A) 3 m
- ☐ B) 6 m
- ☐ C) 35 m
- ☐ D) 5 m
- ☐ E) 4 m

---

56 A floor measures 3 m by 4 m. It is covered with square tiles of side 25 cm. How many tiles are needed?

- ☐ A) 28
- ☐ B) 12
- ☐ C) 192
- ☐ D) 193
- ☐ E) 384

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57 A rectangular allotment has a perimeter of 88 m. Its length is 30 m. What is its width?

- [ ] A) 44 m
- [ ] B) 58 m
- [ ] C) 28 m
- [ ] D) 13 m
- [ ] E) 14 m

---

58 A rectangular classroom floor has an area of 240 square metres and is 12 m long. How wide is it?

- [ ] A) 228 m
- [ ] B) 2,880 m
- [ ] C) 21 m
- [ ] D) 20 m
- [ ] E) 120 m

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Mark scheme · 2.11 Perimeter, Area and Volume: 1-hour Pack

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

Question 1

correct option D (24 m) cao **B1**

Answer: D) 24 m

Question 2

(a) 20 cm cao **M1**

(a) reason: the diameter is twice the radius oe **A1**

(a) Answer: 20 cm (the diameter is twice the radius)

(b) side of the square = the diameter = 20 cm seen oe **M1**

(b) 400 cm² cao **A1**

(b) Answer: 400 cm^2

Question 3

correct option A (56 cm²) cao **B1**

Answer: A) 56 cm²

Question 4

correct option C (12 m) cao **B1**

Answer: C) 12 m

Question 5

correct option A (368 cm²) cao **B1**

Answer: A) 368 cm²

Question 6

correct option E (82 m) cao **B1**

Answer: E) 82 m

Question 7

correct option B (222 m²) cao **B1**

Answer: B) 222 m²

Question 8

correct option E (500 cm²) cao **B1**

Answer: E) 500 cm²

Question 9

correct option B (11 m) cao **B1**

Answer: B) 11 m

Question 10

correct option D (9 m) cao **B1**

Answer: D) 9 m

Question 11

correct option C (375 cm²) cao **B1**

Answer: C) 375 cm²

Question 12

correct option A (12 m) cao **B1**

Answer: A) 12 m

Question 13

correct option A (96) cao **B1**

Answer: A) 96

Question 14

correct option B (112 cm²) cao **B1**

Answer: B) 112 cm²

Question 15

correct option D (18 m) cao **B1**

Answer: D) 18 m

Question 16

correct option C (750) cao **B1**

Answer: C) 750

Question 17

correct option E (252 cm²) cao **B1**

Answer: E) 252 cm²

Question 18

correct option A (24 m) cao **B1**

Answer: A) 24 m

Question 19

correct option D (228 cm²) cao **B1**

Answer: D) 228 cm²

Question 20

correct option B (70 m) cao **B1**

Answer: B) 70 m

Question 21

correct option E (150) cao **B1**

Answer: E) 150

Question 22

correct option B (36 cm²) cao **B1**

Answer: B) 36 cm²

Question 23

correct option A (104 m) cao **B1**

Answer: A) 104 m

Question 24

correct option C (225) cao **B1**

Answer: C) 225

Question 25

correct option E (4 m) cao **B1**

Answer: E) 4 m

Question 26

correct option A (100) cao **B1**

Answer: A) 100

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Question 27

correct option C (42 cm²) cao **B1**

Answer: C) 42 cm²

Question 28

correct option D (22 m) cao **B1**

Answer: D) 22 m

Question 29

(a) 6 x 4 seen **M1**

(a) 24 m² cao **A1**

(a) Answer: 24 m^2

(b) their (a) x 12 (ft) **M1**

(b) £288 cao **A1**

(b) Answer: £288

Question 30

correct option B (64 cm²) cao **B1**

Answer: B) 64 cm²

Question 31

correct option C (128) cao **B1**

Answer: C) 128

Question 32

correct option E (60 cm²) cao **B1**

Answer: E) 60 cm²

Question 33

correct option D (6 m) cao **B1**

Answer: D) 6 m

Question 34

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

Answer: A) 60

Question 35

correct option A (240 cm²) cao **B1**

Answer: A) 240 cm²

Question 36

correct option C (76 m) cao **B1**

Answer: C) 76 m

Question 37

correct option E (500) cao **B1**

Answer: E) 500

Question 38

correct option D (14 m) cao **B1**

Answer: D) 14 m

Question 39

correct option C (100) cao **B1**

Answer: C) 100

Question 40

correct option A (216 cm²) cao **B1**

Answer: A) 216 cm²

Question 41

correct option B (144 m²) cao **B1**

Answer: B) 144 m²

Question 42

correct option E (40 cm²) cao **B1**

Answer: E) 40 cm²

Question 43

correct option A (16 m) cao **B1**

Answer: A) 16 m

Question 44

correct option C (36 cm²) cao **B1**

Answer: C) 36 cm²

Question 45

correct option E (102 m) cao **B1**

Answer: E) 102 m

Question 46

correct option D (450) cao **B1**

Answer: D) 450

Question 47

correct option D (396 cm²) cao **B1**

Answer: D) 396 cm²

Question 48

correct option B (54 m) cao **B1**

Answer: B) 54 m

Question 49

correct option A (234 m²) cao **B1**

Answer: A) 234 m²

Question 50

correct option C (21 cm²) cao **B1**

Answer: C) 21 cm²

Question 51

correct option A (120 m²) cao **B1**

Answer: A) 120 m²

Question 52

correct option D (144 cm²) cao **B1**

Answer: D) 144 cm²

Question 53

correct option E (7 m) cao **B1**

Answer: E) 7 m

Question 54

correct option C (128 cm²) cao **B1**

Answer: C) 128 cm²

Question 55

correct option A (3 m) cao **B1**

Answer: A) 3 m

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Question 56

correct option C (192) cao **B1**

Answer: C) 192

Question 57

correct option E (14 m) cao **B1**

Answer: E) 14 m

Question 58

correct option D (20 m) cao **B1**

Answer: D) 20 m

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