2.11 Perimeter, Area and Volume: Test Pack

GL ASSESSMENT GL · Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

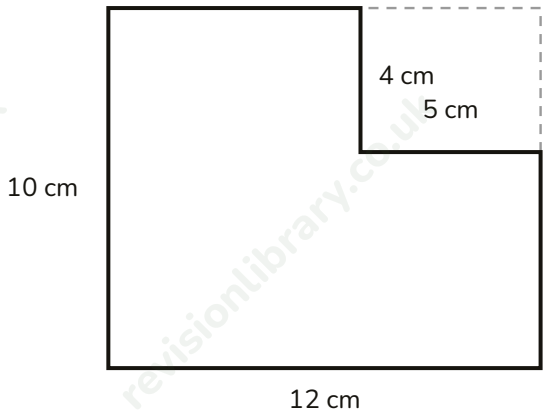
1 A rectangle has length 9 cm and width 4 cm. Calculate the perimeter of the rectangle.

(2)

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2 The diagram shows an L-shaped garden path formed from a 12 cm by 10 cm rectangle with a 5 cm by 4 cm rectangle removed from the top right corner (dimensions shown are the outer rectangle sides and the notch removed; not drawn to scale).

Diagram NOT accurately drawn



(a) Calculate the perimeter of the L-shape. **(3)**

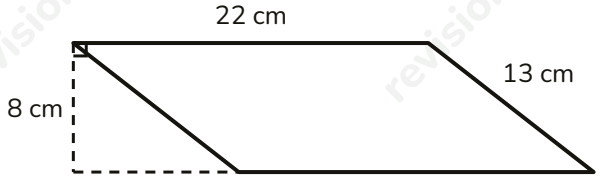
.....

(b) Calculate the area of the L-shape. **(3)**

.....

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3 A parallelogram has a base of 22 cm, a sloping side of 13 cm and a perpendicular height of 8 cm. What is its area?



- ☐ A) 175 cm²
- ☐ B) 177 cm²
- ☐ C) 286 cm²
- ☐ D) 88 cm²
- ☐ E) 176 cm²

---

4 A rectangular patio is 38 m long and 10 m wide. What is its perimeter?

- ☐ A) 58 m
- ☐ B) 96 m
- ☐ C) 380 m
- ☐ D) 48 m
- ☐ E) 86 m

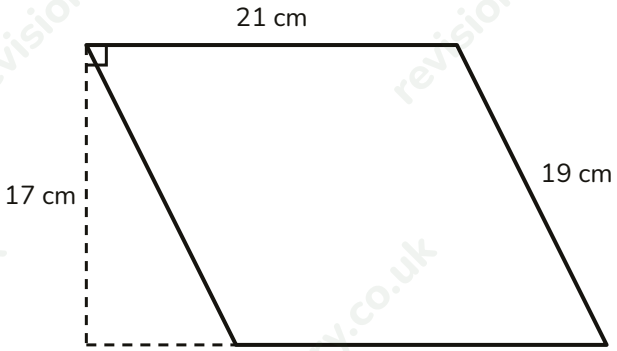
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5 A rectangular allotment measures 11 m by 18 m. What is its area?

- ☐ A) 58 m²
- ☐ B) 29 m²
- ☐ C) 396 m²
- ☐ D) 198 m²
- ☐ E) 100 m²

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6 A parallelogram has a base of 21 cm, a sloping side of 19 cm and a perpendicular height of 17 cm. What is its area?



- ☐ A) 178.5 cm²
- ☐ B) 356 cm²
- ☐ C) 399 cm²
- ☐ D) 357 cm²
- ☐ E) 6,783 cm²

---

7 A rectangular swimming pool is 22 m long and 20 m wide. What is its perimeter?

- ☐ A) 84 m
- ☐ B) 42 m
- ☐ C) 440 m
- ☐ D) 83 m
- ☐ E) 62 m

---

8 A rectangular swimming pool measures 46 m by 3 m. What is its area?

- ☐ A) 49 m²
- ☐ B) 98 m²
- ☐ C) 70 m²
- ☐ D) 276 m²
- ☐ E) 138 m²

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9 A rectangular swimming pool measures 13 m by 11 m. What is its area?

- ☐ A) 142 m²
- ☐ B) 144 m²
- ☐ C) 24 m²
- ☐ D) 143 m²
- ☐ E) 48 m²

---

10 A rectangular picture frame has a length of 2.5 m and a width of 80 cm. Calculate the perimeter of the frame in metres.

(3)

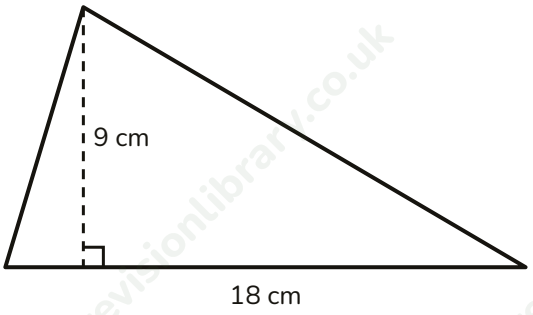
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11 A rectangular allotment measures 40 m by 26 m. What is its area?

- ☐ A) 2,080 m²
- ☐ B) 521 m²
- ☐ C) 1,040 m²
- ☐ D) 66 m²
- ☐ E) 132 m²

---

12 A triangle has a base of 18 cm and a perpendicular height of 9 cm. What is its area?



- ☐ A) 80 cm²
- ☐ B) 13.5 cm²
- ☐ C) 27 cm²
- ☐ D) 81 cm²
- ☐ E) 162 cm²

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13 A rectangular allotment is 14 m long and 8 m wide. What is its perimeter?

- ☐ A) 112 m
- ☐ B) 45 m
- ☐ C) 224 m
- ☐ D) 22 m
- ☐ E) 44 m

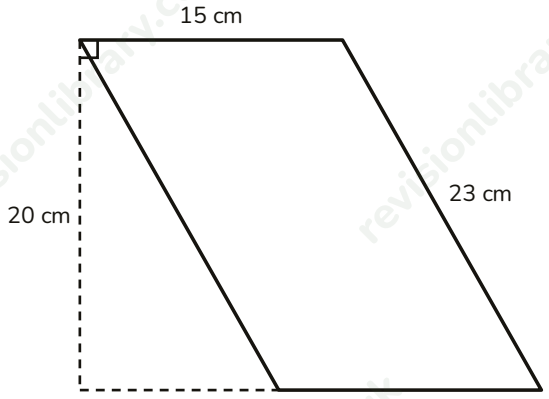
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14 A rectangular classroom floor is 34 m long and 3 m wide. What is its perimeter?

- ☐ A) 75 m
- ☐ B) 74 m
- ☐ C) 204 m
- ☐ D) 37 m
- ☐ E) 102 m

---

15 A parallelogram has a base of 15 cm, a sloping side of 23 cm and a perpendicular height of 20 cm. What is its area?



- ☐ A) 299 cm²
- ☐ B) 300 cm²
- ☐ C) 150 cm²
- ☐ D) 76 cm²
- ☐ E) 345 cm²

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16 A rectangular garden has a perimeter of 114 m. Its length is 40 m. What is its width?

- ☐ A) 57 m
- ☐ B) 74 m
- ☐ C) 16 m
- ☐ D) 17 m
- ☐ E) 34 m

---

17 A rectangular allotment measures 28 m by 22 m. What is its area?

- ☐ A) 1,232 m^2
- ☐ B) 616 m^2
- ☐ C) 50 m^2
- ☐ D) 309 m^2
- ☐ E) 100 m^2

---

18 A rectangular garden is 30 m long and 23 m wide. What is its perimeter?

- ☐ A) 1,380 m
- ☐ B) 76 m
- ☐ C) 53 m
- ☐ D) 690 m
- ☐ E) 106 m

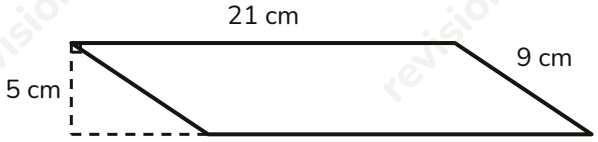
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19 A rectangular allotment has an area of 475 square metres and is 25 m long. How wide is it?

- ☐ A) 11,875 m
- ☐ B) 19 m
- ☐ C) 450 m
- ☐ D) 20 m
- ☐ E) 17 m

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20 A parallelogram has a base of 21 cm, a sloping side of 9 cm and a perpendicular height of 5 cm. What is its area?



- ☐ A) 52.5 cm²
- ☐ B) 105 cm²
- ☐ C) 189 cm²
- ☐ D) 26 cm²
- ☐ E) 60 cm²

---

21 A rectangular garden has an area of 154 square metres and is 14 m long. How wide is it?

- ☐ A) 77 m
- ☐ B) 2,156 m
- ☐ C) 12 m
- ☐ D) 140 m
- ☐ E) 11 m

---

22 A rectangular playground is 36 m long and 9 m wide. What is its perimeter?

- ☐ A) 91 m
- ☐ B) 45 m
- ☐ C) 324 m
- ☐ D) 81 m
- ☐ E) 90 m

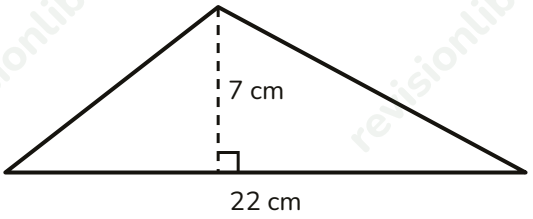
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23 A rectangular swimming pool measures 31 m by 34 m. What is its area?

- ☐ A) 1,053 m²
- ☐ B) 130 m²
- ☐ C) 1,054 m²
- ☐ D) 65 m²
- ☐ E) 528 m²

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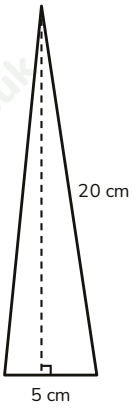
24 A triangle has a base of 22 cm and a perpendicular height of 7 cm. What is its area?



- [ ] A) 154 cm²
- [ ] B) 76 cm²
- [ ] C) 77 cm²
- [ ] D) 29 cm²
- [ ] E) 38.5 cm²

---

25 A triangle has a base of 5 cm and a perpendicular height of 20 cm. What is its area?



- [ ] A) 51 cm²
- [ ] B) 100 cm²
- [ ] C) 50 cm²
- [ ] D) 25 cm²
- [ ] E) 49 cm²

---

26 A rectangular playground is 15 m long and 10 m wide. What is its perimeter?

- [ ] A) 40 m
- [ ] B) 25 m
- [ ] C) 50 m
- [ ] D) 35 m
- [ ] E) 150 m

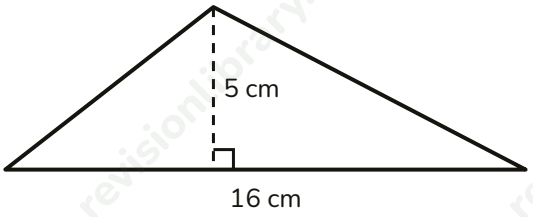
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27 A rectangular classroom floor measures 46 m by 23 m. What is its area?

- ☐ A) 2,116 m²
- ☐ B) 69 m²
- ☐ C) 1,058 m²
- ☐ D) 138 m²
- ☐ E) 1,059 m²

---

28 A triangle has a base of 16 cm and a perpendicular height of 5 cm. What is its area?



- ☐ A) 80 cm²
- ☐ B) 21 cm²
- ☐ C) 40 cm²
- ☐ D) 41 cm²
- ☐ E) 39 cm²

---

29 A square garden has a perimeter of 116 m. How long is each side?

- ☐ A) 29 m
- ☐ B) 841 m
- ☐ C) 112 m
- ☐ D) 30 m
- ☐ E) 58 m

---

30 A rectangular playground has an area of 336 square metres and is 24 m long. How wide is it?

- ☐ A) 312 m
- ☐ B) 14 m
- ☐ C) 7 m
- ☐ D) 8,064 m
- ☐ E) 168 m

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31 A rectangular garden measures 42 m by 31 m. What is its area?

- ☐ A) 652 m²
- ☐ B) 1,302 m²
- ☐ C) 1,764 m²
- ☐ D) 146 m²
- ☐ E) 73 m²

---

32 A rectangular playground is 25 m long and 13 m wide. What is its perimeter?

- ☐ A) 51 m
- ☐ B) 38 m
- ☐ C) 76 m
- ☐ D) 63 m
- ☐ E) 325 m

---

33 A rectangular garden has a perimeter of 54 m. Its length is 19 m. What is its width?

- ☐ A) 35 m
- ☐ B) 16 m
- ☐ C) 27 m
- ☐ D) 10 m
- ☐ E) 8 m

---

34 A rectangular rug is 8 m long and 4 m wide. What is its perimeter?

- ☐ A) 12 m
- ☐ B) 24 m
- ☐ C) 25 m
- ☐ D) 32 m
- ☐ E) 20 m

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35 A floor measures 2 m by 4 m. It is covered with square tiles of side 40 cm. How many tiles are needed?

- [ ] A) 8
- [ ] B) 51
- [ ] C) 15
- [ ] D) 30
- [ ] E) 50

---

36 A rectangular garden has an area of 252 square metres and is 14 m long. How wide is it?

- [ ] A) 126 m
- [ ] B) 238 m
- [ ] C) 16 m
- [ ] D) 17 m
- [ ] E) 18 m

---

37 A square classroom floor has a perimeter of 76 m. How long is each side?

- [ ] A) 72 m
- [ ] B) 38 m
- [ ] C) 18 m
- [ ] D) 19 m
- [ ] E) 361 m

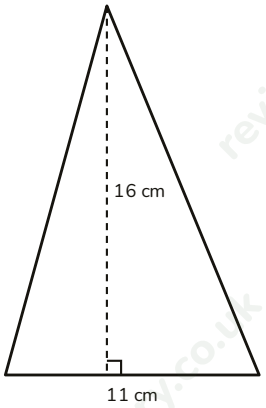
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38 A rectangular sports hall has an area of 198 square metres and is 18 m long. How wide is it?

- [ ] A) 180 m
- [ ] B) 12 m
- [ ] C) 3,564 m
- [ ] D) 11 m
- [ ] E) 99 m

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39 A triangle has a base of 11 cm and a perpendicular height of 16 cm. What is its area?



- ☐ A) 176 cm²
- ☐ B) 87 cm²
- ☐ C) 27 cm²
- ☐ D) 54 cm²
- ☐ E) 88 cm²

---

40 A square patio has a perimeter of 108 m. How long is each side?

- ☐ A) 104 m
- ☐ B) 54 m
- ☐ C) 28 m
- ☐ D) 729 m
- ☐ E) 27 m

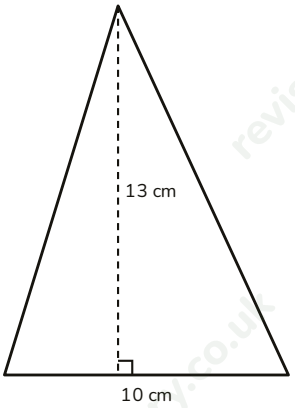
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41 A rectangular playground is 31 m long and 15 m wide. What is its perimeter?

- ☐ A) 465 m
- ☐ B) 77 m
- ☐ C) 92 m
- ☐ D) 46 m
- ☐ E) 61 m

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42 A triangle has a base of 10 cm and a perpendicular height of 13 cm. What is its area?



- ☐ A) 23 cm²
- ☐ B) 32.5 cm²
- ☐ C) 65 cm²
- ☐ D) 130 cm²
- ☐ E) 66 cm²

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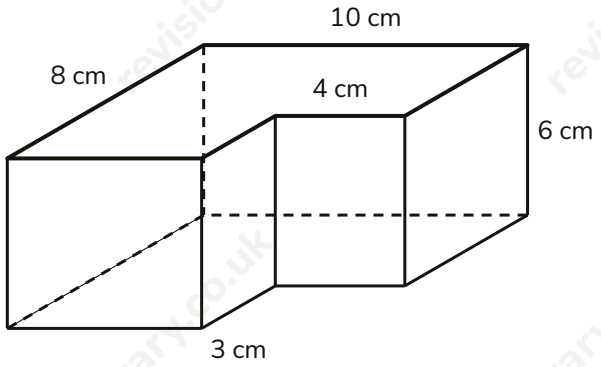
43 A rectangular patio has a perimeter of 92 m. Its length is 34 m. What is its width?

- ☐ A) 24 m
- ☐ B) 12 m
- ☐ C) 58 m
- ☐ D) 13 m
- ☐ E) 11 m

---

44 A solid cuboid measures 10 cm by 8 cm by 6 cm. A smaller cuboid measuring 4 cm by 3 cm by 6 cm is cut out of one vertical edge, running the full height of the solid. Calculate the volume of the remaining solid.

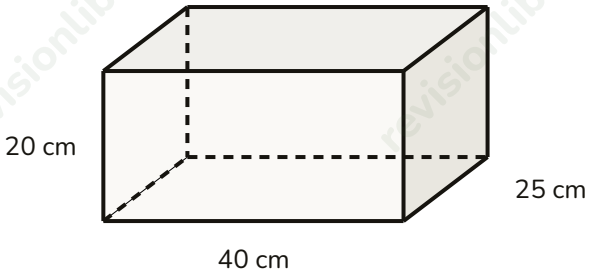
Diagram NOT accurately drawn



(4)

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45 A cuboid water tank has length 40 cm, width 25 cm and height 20 cm.



(a) Calculate the volume of the tank in cm^3. **(2)**

.....

(b) Water is poured into the tank until it is 3/4 full. Calculate the volume of water in the tank. **(2)**

.....

(c) Given that 1000 cm^3 = 1 litre, calculate how many litres of water this is. **(2)**

.....

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Mark scheme · 2.11 Perimeter, Area and Volume: Test Pack

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

Question 1

correct method, e.g. 9 + 4 + 9 + 4 or 2 x (9 + 4) **M1**

26 cm cao **A1**

Answer: 26 cm

Question 2

(a) missing lengths found: 12 - 5 = 7 cm and 10 - 4 = 6 cm **M1**

(a) all six sides added: 12 + 6 + 5 + 4 + 7 + 10 **M1**

(a) 44 cm cao **A1**

(a) Answer: 44 cm

(b) large rectangle area 12 x 10 = 120 cm² **M1**

(b) removed rectangle area 5 x 4 = 20 cm² **M1**

(b) 100 cm² cao (ft 120 - their removed area) **A1**

(b) Answer: 100 cm^2

Question 3

correct option E (176 cm²) cao **B1**

Answer: E) 176 cm²

Question 4

correct option B (96 m) cao **B1**

Answer: B) 96 m

Question 5

correct option D (198 m²) cao **B1**

Answer: D) 198 m²

Question 6

correct option D (357 cm²) cao **B1**

Answer: D) 357 cm²

Question 7

correct option A (84 m) cao **B1**

Answer: A) 84 m

Question 8

correct option E (138 m²) cao **B1**

Answer: E) 138 m²

Question 9

correct option D (143 m²) cao **B1**

Answer: D) 143 m²

Question 10

80 cm converted to 0.8 m **M1**

2 x (2.5 + 0.8) seen (oe) **M1**

6.6 m cao **A1**

Answer: 6.6 m

Question 11

correct option C (1,040 m²) cao **B1**

Answer: C) 1,040 m²

Question 12

correct option D (81 cm²) cao **B1**

Answer: D) 81 cm²

Question 13

correct option E (44 m) cao **B1**

Answer: E) 44 m

Question 14

correct option B (74 m) cao **B1**

Answer: B) 74 m

Question 15

correct option B (300 cm²) cao **B1**

Answer: B) 300 cm²

Question 16

correct option D (17 m) cao **B1**

Answer: D) 17 m

Question 17

correct option B (616 m²) cao **B1**

Answer: B) 616 m²

Question 18

correct option E (106 m) cao **B1**

Answer: E) 106 m

Question 19

correct option B (19 m) cao **B1**

Answer: B) 19 m

Question 20

correct option B (105 cm²) cao **B1**

Answer: B) 105 cm²

Question 21

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

Answer: E) 11 m

Question 22

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

Answer: E) 90 m

Question 23

correct option C (1,054 m²) cao **B1**

Answer: C) 1,054 m²

Question 24

correct option C (77 cm²) cao **B1**

Answer: C) 77 cm²

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Question 25

correct option C (50 cm²) cao **B1**

Answer: C) 50 cm²

Question 26

correct option C (50 m) cao **B1**

Answer: C) 50 m

Question 27

correct option C (1,058 m²) cao **B1**

Answer: C) 1,058 m²

Question 28

correct option C (40 cm²) cao **B1**

Answer: C) 40 cm²

Question 29

correct option A (29 m) cao **B1**

Answer: A) 29 m

Question 30

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

Answer: B) 14 m

Question 31

correct option B (1,302 m²) cao **B1**

Answer: B) 1,302 m²

Question 32

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

Answer: C) 76 m

Question 33

correct option E (8 m) cao **B1**

Answer: E) 8 m

Question 34

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

Answer: B) 24 m

Question 35

correct option E (50) cao **B1**

Answer: E) 50

Question 36

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

Answer: E) 18 m

Question 37

correct option D (19 m) cao **B1**

Answer: D) 19 m

Question 38

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

Answer: D) 11 m

Question 39

correct option E (88 cm²) cao **B1**

Answer: E) 88 cm²

Question 40

correct option E (27 m) cao **B1**

Answer: E) 27 m

Question 41

correct option C (92 m) cao **B1**

Answer: C) 92 m

Question 42

correct option C (65 cm²) cao **B1**

Answer: C) 65 cm²

Question 43

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

Answer: B) 12 m

Question 44

large cuboid volume 10 x 8 x 6 = 480 cm³ **M1**

removed cuboid volume 4 x 3 x 6 = 72 cm³ **M1**

480 - 72 seen (ft) **M1**

408 cm³ cao **A1**

Answer: 408 cm^3

Question 45

(a) 40 x 25 x 20 seen **M1**

(a) 20000 cm³ cao **A1**

(a) Answer: 20000 cm^3

(b) their (a) x 3/4 (ft) **M1**

(b) 15000 cm³ cao **A1**

(b) Answer: 15000 cm^3

(c) their (b) / 1000 (ft) **M1**

(c) 15 litres cao **A1**

(c) Answer: 15 litres

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