

Name: Answers

GCSE 9-1 Foundation
Practice Paper
Set C
Paper 2 - Calculator



Corbettmaths

Equipment

1. A black ink ball-point pen.
2. A pencil.
3. An eraser.
4. A ruler.
5. A pair of compasses.
6. A protractor.
7. A calculator

Guidance

1. Read each question carefully.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Information

1. Time: 1 hour 30 minutes
2. The maximum mark for this paper is 80.
3. You may use tracing paper.

| Question | Mark | Available |
|----------|------|-----------|
| 1 | | 1 |
| 2 | | 1 |
| 3 | | 1 |
| 4 | | 1 |
| 5 | | 3 |
| 6 | | 3 |
| 7 | | 3 |
| 8 | | 5 |
| 9 | | 4 |
| 10 | | 3 |
| 11 | | 5 |
| 12 | | 3 |
| 13 | | 2 |
| 14 | | 2 |
| 15 | | 2 |
| 16 | | 3 |
| 17 | | 3 |
| 18 | | 2 |
| 19 | | 5 |
| 20 | | 5 |
| 21 | | 4 |
| 22 | | 3 |
| 23 | | 3 |
| 24 | | 6 |
| 25 | | 4 |
| 26 | | 3 |
| Total | | 80 |

1. Write 18% as a fraction

$$\frac{18}{100} = \frac{9}{50}$$

(1)

2. Work out the value of 2^4

$$2 \times 2 \times 2 \times 2 =$$

16

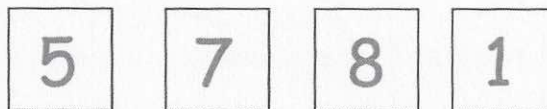
(1)

3. Write 4.83 correct to 1 decimal place

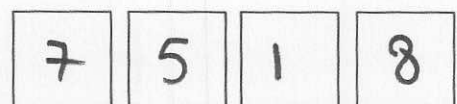
4.8

(1)

4. Here are four number cards.



Use each digit once to make the largest **even** number



(1)

5. (a) Change 16m to cm.

1600
.....cm
(1)

(b) Change 30000 grams to kilograms.

30kg
.....
(1)

240 ml into litres
(c) Change ~~16m~~ 16000 cm.

0.24
.....
(1)

6. Lenny writes down a number.

It is a factor of 42.

It is odd.

It is a multiple of 7.

There are two possible numbers Lenny could have written down.

Write down these two numbers.

multiples of 7 : 7, 14, 21, 28, 35, 42

of these, factors of 42 7, 14, 21, 42

7 and 21
.....
(3)

7. In a restaurant, there are 5 possible pizza toppings:

Chicken, Pineapple, Olives, Mushrooms and Beef.

Freddie picks two different toppings on his pizza

List all the possible outcomes.

CP
CO PO
CM PM OM
CB PB OB MB

(3)

8. Amie is selling ham rolls.
To make one ham roll, Amie uses one bread roll and three slices of ham.

| |
|-------------------------|
| 10 bread rolls £1.49 |
|-------------------------|

| |
|--------------------------|
| 8 slices of ham £1.75 |
|--------------------------|

Amie makes 40 ham rolls.
She sells each ham roll for £1.50

Work out how much profit Amie makes.

40 bread rolls: $4 \times 1.49 = \text{£}5.96$

120 slices of ham (3 per roll): $15 \times 1.75 = \text{£}26.25$

Total cost: $\text{£}32.21$

Total sales: $40 \times 1.50 = \text{£}60$

Profit: $\text{£}60 - \text{£}32.21 = \text{£}27.79$

£27.79

£.....

(5)

9. Robert drives for 7 hours at an average speed of 34mph.

(a) How far does Robert drive?

$$d = s \times t = 34 \times 7 \\ = 210 + 28$$

.....238.....miles
(2)

Owen drives 238 miles at an average speed of 56mph

(b) How long does it take Owen?

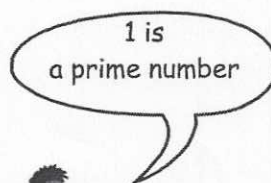
Give your answer in hours and minutes

$$t = \frac{d}{s} = \frac{238}{56} = 4.25 \text{ h}$$

.....4.....hours15.....minutes
(2)

10. (a) Write down all the prime numbers between 10 and 20.

.....11, 13, 17, 19.....
(2)



Gemma

(b) Explain why Gemma is incorrect.

.....Prime numbers have exactly 2 factors.....
.....1 does not.....

(1)

11. (a) Solve $\frac{x}{6} = 8$

$$6 \times 8 =$$

$$x = \frac{48}{\dots\dots\dots} \quad (1)$$

(b) Solve $5y - 9 = 18$

$$\begin{array}{l} \cancel{+9} \\ 5y = 27 \end{array}$$

$$y = \frac{27}{5} =$$

$$y = \frac{5.4}{\dots\dots\dots} \quad (2)$$

(c) Solve $3(2x + 1) = 105$

$$6x + 3 = 105$$

$$6x = 102$$

$$x = \frac{102}{6} =$$

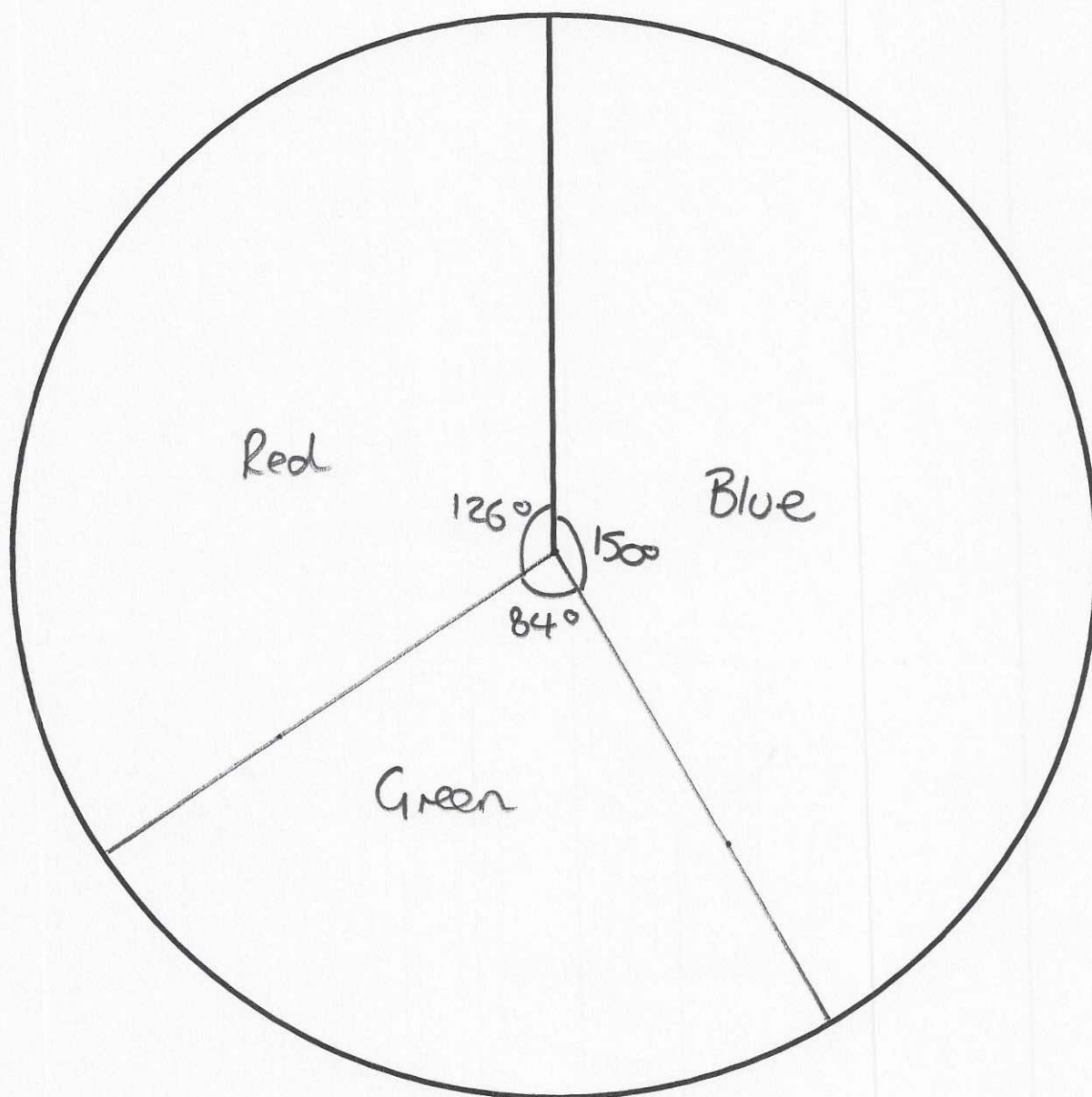
$$x = \frac{17}{\dots\dots\dots} \quad (2)$$

12. Maxine recorded the colours of sweets in a bag.

| Colour | Frequency |
|--------|-----------|
| Blue | 25 |
| Green | 14 |
| Red | 21 |

$$\begin{array}{r} 25 \times 6 = 150 \\ 14 \times 6 = 84 \\ 21 \times 6 = 126 \\ \hline 60 \xrightarrow{\times 6} 360 \end{array}$$

Draw an accurate pie chart for this information.



(3)

13. There are 20 counters in a bag.

2 of the counters are white.

1 of the counters is pink.

4 of the counters are black.

The rest of the counters are purple.

Carter takes a counter at random from the bag.

Show that the probability that the counter is white or purple is $\frac{3}{4}$

$$\text{purple: } 20 - 4 - 1 - 2 = 13$$

$$\text{white : } 2$$

$$\text{purple or white } 13 + 2 = 15$$

$$P(p \text{ or } w) = \frac{15}{20} = \frac{3}{4}$$

.....
(2)

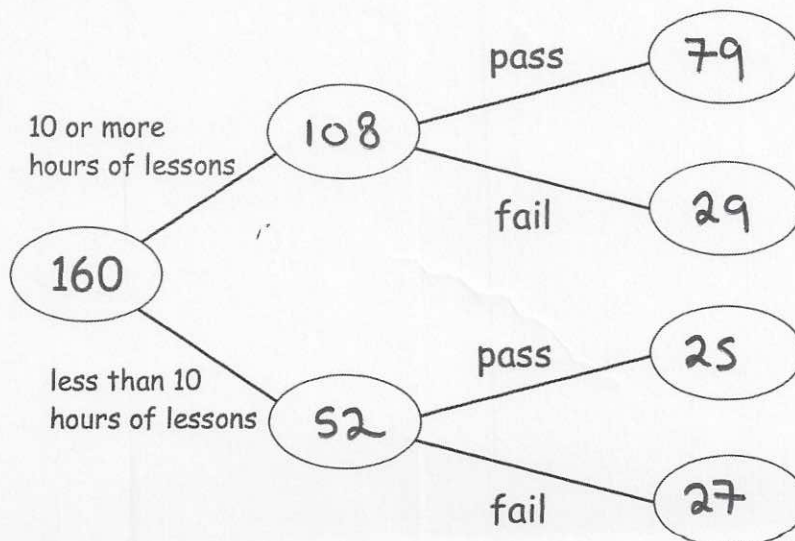
14. 160 people sit their driving test.

108 people took 10 or more hours of driving lessons.

29 of the people who took 10 or more hours of driving lessons failed their test.

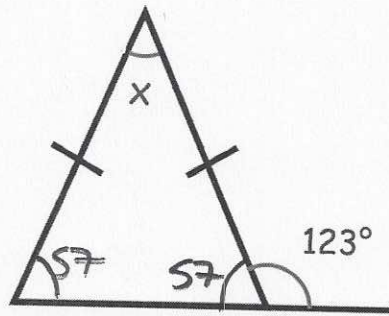
104 people passed their driving test altogether.

Use this information to complete the frequency tree.



(2)

15.



Find the size of angle x .

$$180 - 123 = 57$$

$$x = 180 - 2 \times 57 = 66$$

$$x = 66 \text{ } \dots\dots\dots^\circ$$

(2)

16. The table below shows the number of pets owned by Year 11.

| Number of pets | Frequency | |
|----------------|-----------|-------|
| 0 | x 13 | = 0 |
| 1 | x 28 | = 28 |
| 2 | x 50 | = 100 |
| 3 | x 9 | = 27 |
| total | 100 | 155 |

Work out the mean number of pets owned.

$$\text{mean} = \frac{155}{100} =$$

$$1.55 \text{ } \dots\dots\dots$$

(3)

17. David has a full 800ml bottle of car shampoo.
He is going to mix some of the car shampoo with water.

The bottle has this guidance

Car Shampoo - 800ml
Mix $\frac{1}{4}$ of the car shampoo
with 1.8 litres of water

David is going to use 360ml of water.

How much car shampoo should David use?

$$\frac{1}{4} \text{ of } 800\text{ml} = 200\text{ml}$$

$$1.8\text{L} = 1800\text{ml}$$

$$\begin{array}{l} \text{shampoo} : \text{water} \\ 200 : 1800 \\ ? : 360 \end{array}$$

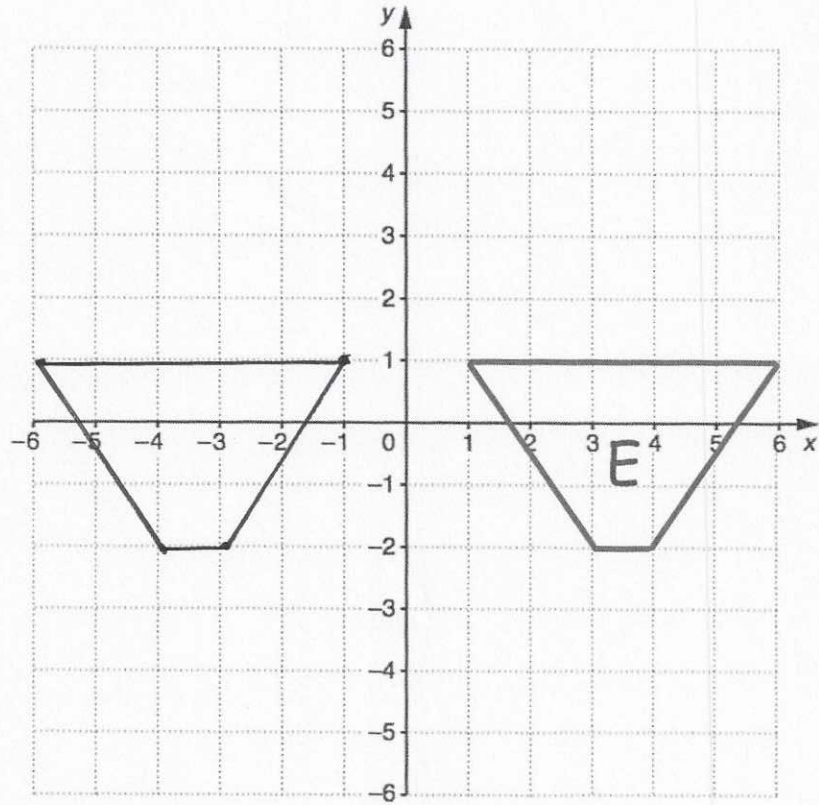
$$1800 \div 360 = 5$$

$$200 \div 5 =$$

$$\frac{40\text{ml}}{\dots\dots\dots}$$

(3)

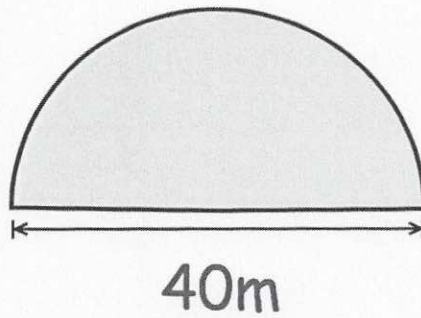
18.



Reflect shape E in the y-axis.

(2)

19. Farmer Jenkins is planting a crop in his semi-circular field.



The seed costs £0.80 per square metre.

When fully grown, Farmer Jenkins can sell the crop from 4m² for £45

Calculate the profit he should make.

$$\text{area} = \frac{\pi \times 20^2}{2} = 628.3185 \dots \text{m}^2$$

$$\text{Seed costs } 0.8 \times 628.315 \dots = \pounds 502.65$$

$$\text{Sold at } \frac{628.3185}{4} \times 45 = \pounds 7068.58$$

profit =

$$\begin{array}{r} \pounds 6565.93 \\ \hline (5) \end{array}$$

20. (a) Simplify $w^8 \times w^2$

$$\frac{w^{10}}{\dots\dots\dots} \quad (1)$$

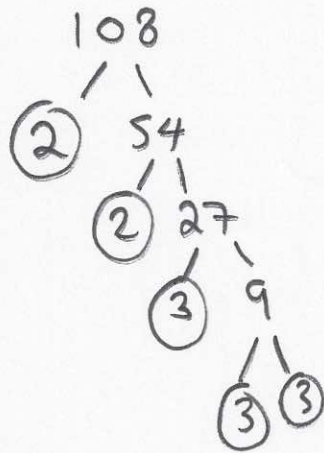
(b) Simplify $(2w^3)^3$

$$\frac{8w^9}{\dots\dots\dots} \quad (2)$$

(c) Simplify $\frac{81a^8b^{10}}{9a^2b}$

$$\frac{9a^6b^9}{\dots\dots\dots} \quad (2)$$

21. (a) Express 108 as a product of its prime factors.
Give your answer in index form.

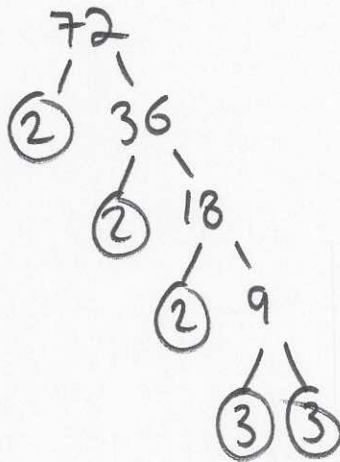


$$2 \times 2 \times 3 \times 3 \times 3 =$$

$$2^2 \times 3^3$$

.....
(2)

- (b) Find the Highest Common Factor (HCF) of 108 and 72.



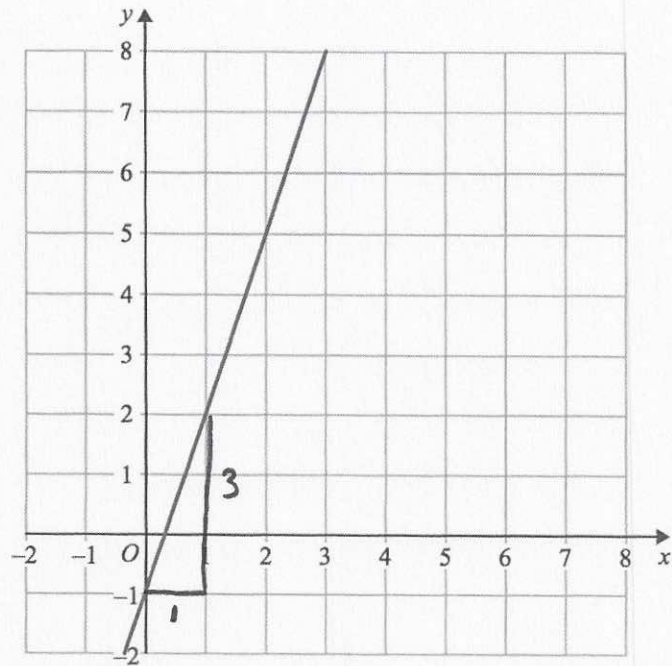
$$72 = \underline{2} \times \underline{2} \times \underline{2} \times \underline{3} \times \underline{3}$$

$$108 = \underline{2} \times \underline{2} \times 3 \times \underline{3} \times \underline{3}$$

$$\text{HCF} = 2 \times 2 \times 3 \times 3 = 36$$

.....
(2)

22.



Find the equation of the line above.

$$\text{gradient} = \frac{3}{1} = 3$$

$$y\text{-intercept} = -1$$

$$y = 3x - 1 \quad \text{.....} \quad (3)$$

23. The height of a sunflower increases by 60% each year.
When planted the sunflower was 40cm tall.

Calculate how tall the sunflower will be in 5 years time.

$$40 \times 1.6^5 = 419.43 \dots$$

419.4 cm

.....
(3)

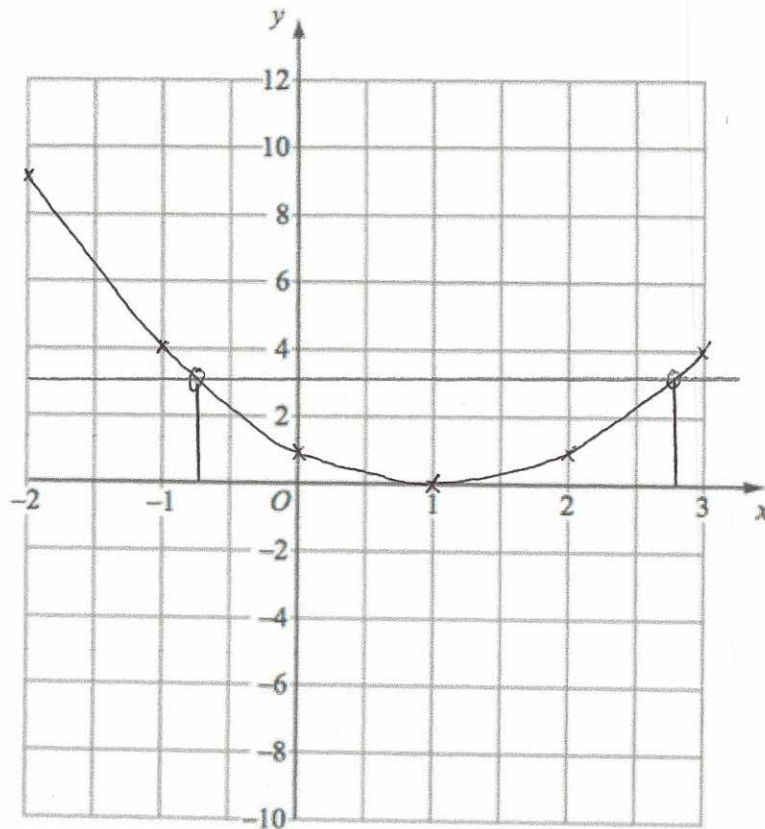
24.

(a) Complete the table of values for $y = (x - 1)^2$

| | | | | | | |
|---|----|----|---|---|---|---|
| x | -2 | -1 | 0 | 1 | 2 | 3 |
| y | 9 | 4 | 1 | 0 | 1 | 4 |

(2)

(b) On the grid, draw the graph of $y = (x - 1)^2$ for the values of x from -2 to 3



(2)

(c) Use your graph to find estimates of the solutions to the equation $(x - 1)^2 = 3$

$$x = -0.75 \text{ or } x = 2.75$$

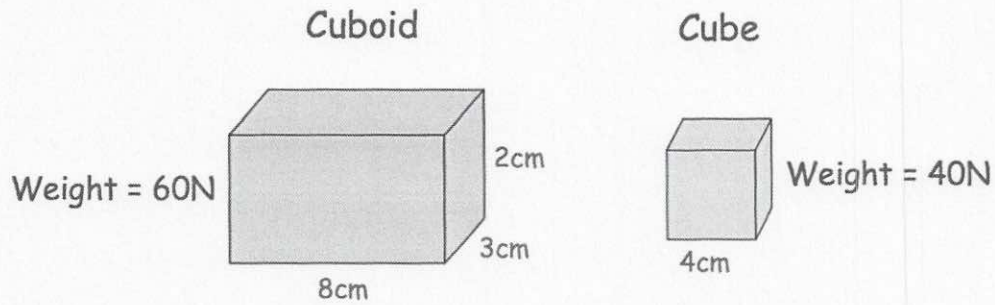
(2)

25.

The cuboid and the cube below are placed on the floor.

The cuboid has a weight of 60N

The cube has a weight of 40N



Which exerts a greater pressure on the ground?
You must show your working.

$$\text{pressure} = \frac{\text{weight}}{\text{area}}$$

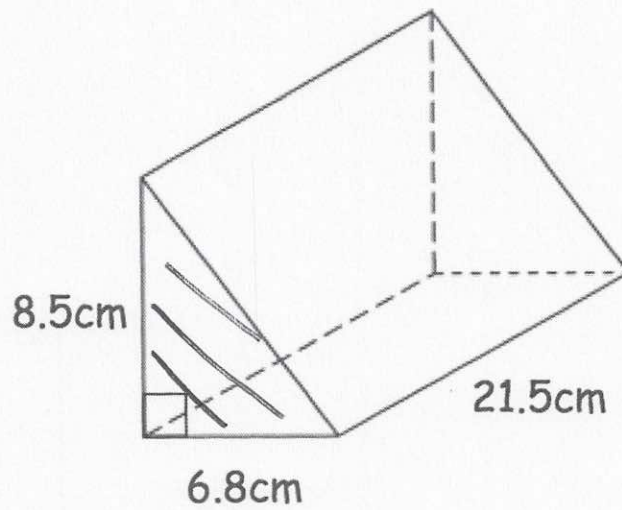
$$\text{cuboid } \frac{60}{8 \times 3} = 2.5 \text{ N/cm}^2$$

$$\text{cube } \frac{40}{4^2} = 2.5 \text{ N/cm}^2$$

they are both the same

.....
(4)

26. Shown below is a triangular prism.



Find the volume of the triangular prism.

$$\begin{aligned} \text{area} &= \frac{1}{2} \times 6.8 \times 8.5 \\ &= 28.9 \end{aligned}$$

$$\text{Vol} = 28.9 \times 21.5 = 621.35$$

$$\begin{aligned} &621.35 \\ &\text{.....cm}^3 \\ &\text{(3)} \end{aligned}$$