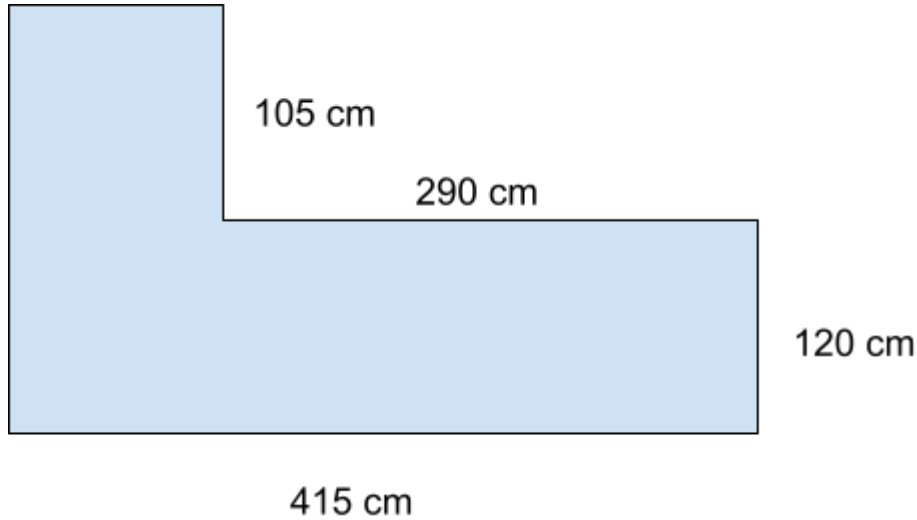




1. The floor of a kitchen has the shape shown below.



- a. Calculate the area of the floor. Give your answer in square metres to two decimal places. [3]
- b. A builder is tiling the floor. The tiles are stuck to the floor with adhesive (glue) that comes in 4L tins. The coverage of the adhesive is 1L per 0.5 m^2 . Will the builder be able to complete the job with 3 tins of adhesive? You must show your working. [3]

2.

- a. Georgia is aiming to increase her maths score this year by at least 7%. Last year she scored 64 marks in her end-of-year exam. What is the minimum score she wants to achieve in the exam this year, to the nearest 1 mark? [2]
- b. Prices have been rising in the shops. A shirt that was \$12.20 last month is now \$13.50. By what percentage has the shirt price increased? Give your answer to 1dp. [2]

3. A student is asked to draw a pie chart to represent the following data.

Favourite Colour	Frequency
Red	8
Blue	12
Green	4

What will be the angle at the centre of the sector that represents the people who picked green as their favourite colour? [2]

4. The diagram shows a cuboid container whose length is 12cm, height 5cm and width 3cm.
- a. Find the surface area of the container.



[3]

- b. A second cuboid container has length 5m, height 3.2m and width 4m. It is full of water to a depth of 2.5m but the water is leaking at a rate of $24 \text{ m}^3 / \text{hour}$. How long will it take for the container to empty? Give your answer in hours and minutes. [3]

5. The diagram below shows the position of Alberton (A) on a scale map. Bearsville is 225km from Alberton on a bearing of 085° .
- a. Mark the position of Bearsville by drawing an X on the map. [2]
- b. **Calculate** (do not measure) the bearing of Alberton from Bearsville. You must show your working. [2]

Scale: $1\text{cm} = 50\text{km}$



6. To make perfect rice, a chef uses $1\frac{3}{4}$ cups of water for every 1 cup of rice. Giving your answers as mixed numbers in their simplest form and showing your working, calculate how much water should she use for:

a. $\frac{1}{2}$ a cup of rice [1]

b. $2\frac{1}{2}$ cups of rice [2]

7. Navid is running a business buying sweets in bulk, repackaging them, and selling them to his friends.

He can buy a 5kg box of sweets for £26.25.

He puts these into paper bags each containing 200g of sweets. Each empty paper bag costs 5p.

He wants to make 20% profit overall.

At what price should he sell each bag of sweets? [3]

8.

a. Solve:

$$\frac{2x+2}{4-x} = 6$$

[2]

b. Expand and simplify: $2(x - 1)^2$ [2]

c. Make t the subject of the equation: $t^2 - v = 2P$ [2]

d. Factorise: $x^2 - 6x + 9$ [2]

9. A bag contains 250 beads of various colours. A single bead is picked at random from the bag. The table shows the probability of the selected bead being a given colour.

Blue	Red	Green	Yellow
0.42	0.34		

The probability of picking a green bead is twice the probability of picking a yellow bead.

a. Complete the table [3]

b. A bead is picked at random and replaced in the bag, then a second bead is picked. Calculate the probability that two red beads are picked. [2]