1   Pedro drove from Toulouse to Montpellier in 2 hours 42 minutes.
He drove at an average speed of 90 km/hour.

Janine drove from Toulouse to Montpellier along the same route as Pedro.
The journey took her 3 hours.

Work out Janine's average speed for the journey.

.... km/hour

(Total for Question 1 is 4 marks)

2   A box is put on a horizontal table.

The face of the box in contact with the table is a square of side 1.5 metres.
The pressure on the table due to the box is 34.8 newtons/m^2

Work out the force exerted by the box on the table.

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

.... newtons

(Total for Question 2 is 3 marks)

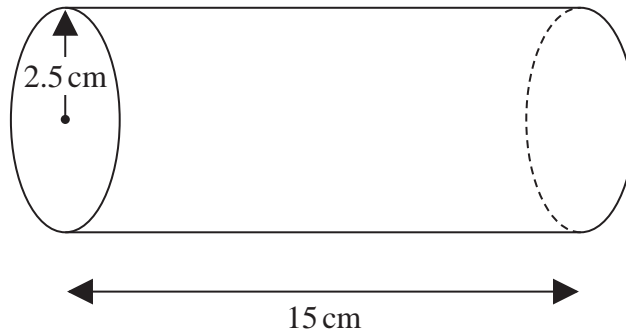**3** Platinum nuggets are in the shape of a solid cylinder.

Diagram **NOT** accurately drawn

The radius of each cylinder is 2.5 cm.
The length of each cylinder is 15 cm.

The density of platinum is 21.5 g/cm^3

The greatest mass that Jacques can carry is 30 kg.

Can Jacques carry 5 platinum nuggets at the same time?
You must show all your working.

(Total for Question 3 is 5 marks)

4   Change a speed of 81 kilometres per hour to a speed in metres per second.

.... metres per second

(Total for Question 4 is 3 marks)