5. For safety reasons the speed limit outside Fairfield Park is 20 miles per hour.

The distance between the speed limit signs outside Fairfield Park is half a mile.

A van took 2 minutes to travel between these signs.

Was the van travelling at a safe speed?

Give a reason for your answer.

3

[Turn over

Marks

6. (*a*) Simplify

$$8(c - 3) + 5(c + 2).$$

3

(*b*) Solve algebraically

$$25 = 7x + 4.$$

2

7. Rowan wants to buy 13 theatre tickets.

The price of one ticket is £12·50.

The theatre has a special online offer of four tickets for the price of three.

Rowan makes use of the special online offer.

How much does Rowan pay for the 13 theatre tickets?

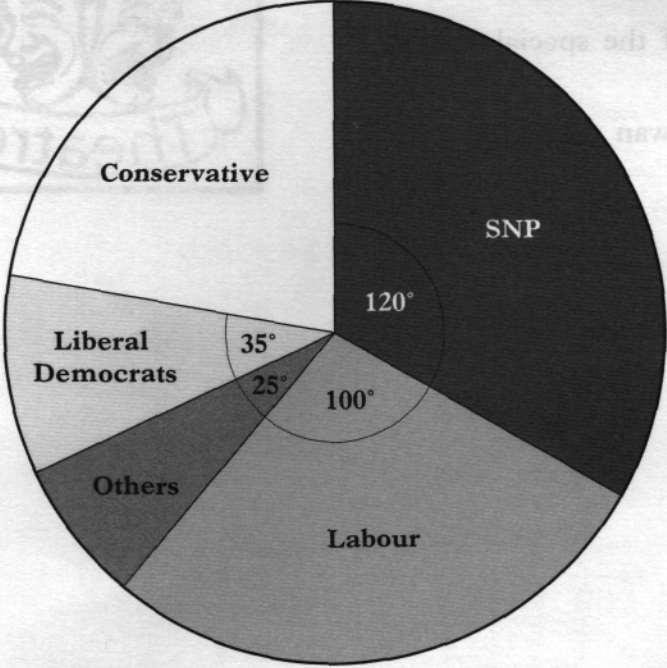**Online Ticket Offer**
4 for the price of 3

Theatre

3

[Turn over

8. A survey of 1800 first time voters was carried out.

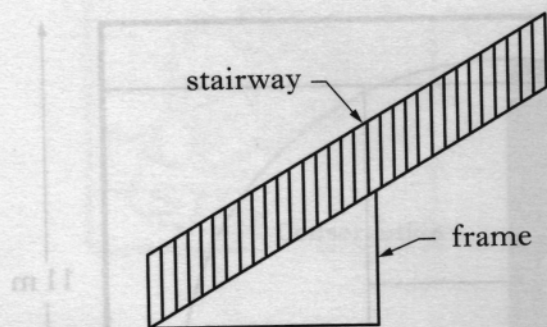The pie chart below shows how they would vote at the next election.

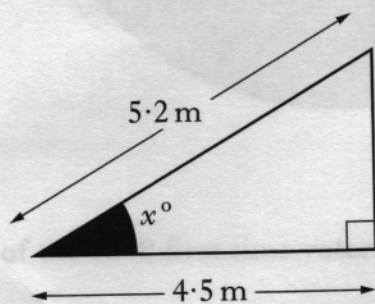How many of the 1800 first time voters would vote Conservative?

3

9. A tennis court is 11 metres wide.

It has an area of 264 square metres.

11 m

Calculate the perimeter of the tennis court.

3

[**Turn over**

10. Ahmed is making a frame to strengthen a stairway in a shopping centre.

He needs to know the angle the stairway makes with the floor, as shown in the diagram below.

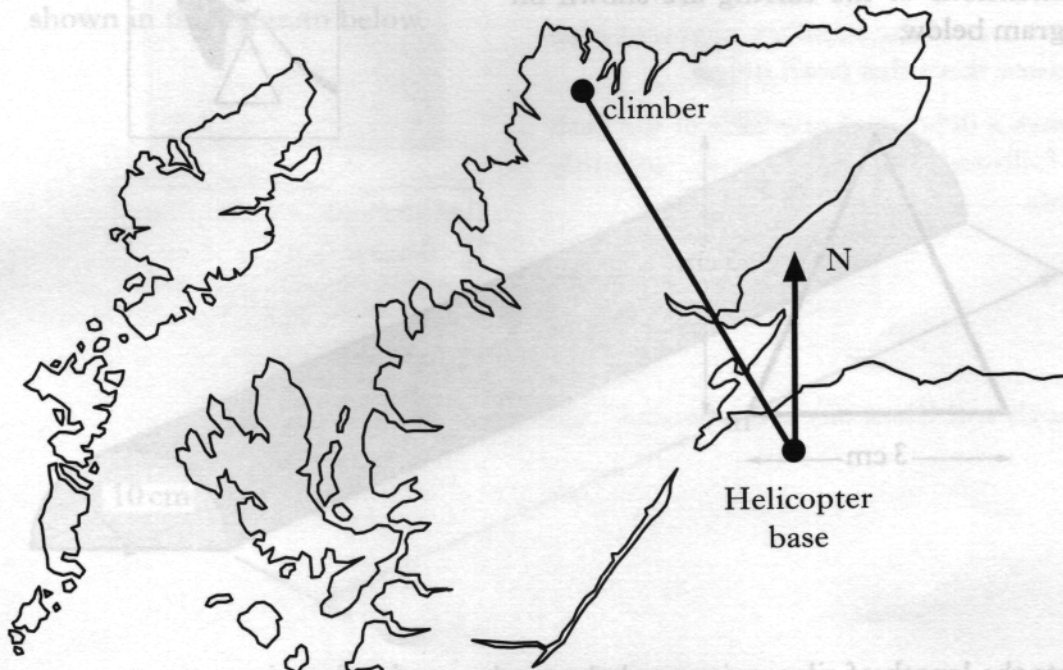The hypotenuse of the frame is 5·2 m and the horizontal distance is 4·5 m.

Calculate the size of the shaded angle $x°$.

3

11. A climber needs to be rescued.

His position from the helicopter base is marked on the map.

climber

N

← 3 cm →

Helicopter
base

(*a*) Using a scale of 1 centimetre to 15 kilometres, calculate the distance of
the climber from the helicopter base.

1

(*b*) Find the bearing of the climber from the helicopter base.
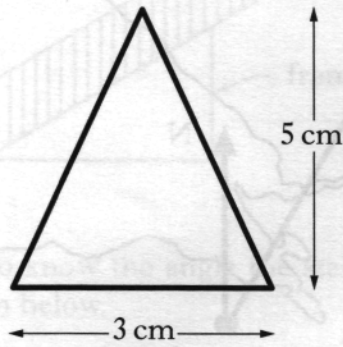
2

[Turn over

12. An earring in the shape of an isosceles triangle is made from silver wire.

The dimensions of the earring are shown on the diagram below.

5 cm

←—3 cm—→

Calculate the length of silver wire needed to make a **pair** of earrings.

Do not use a scale drawing.

4

Marks | KU | RE

13. A plastic speed bump in the shape of a half cylinder is used to slow traffic outside a Primary School.

The speed bump has radius of 10 centimetres and a length of 7 metres as shown in the diagram below.

7 m

10 cm

Calculate the volume of plastic used to make the speed bump.

3

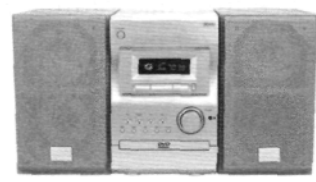[**Turn over for Question 14 on *Page sixteen***

14. Liam buys a new stereo using the monthly payment plan.

The cash price of the stereo is £360.

The total cost of the monthly payment plan is **5% more than the cash price**.

Liam pays a deposit of one fifth of the cash price followed by 30 equal monthly payments.

Cash Price £360

Monthly Payment Plan
Deposit ⅕ of cash price
and 30 monthly payments

How much will Liam pay each month?

4

[END OF QUESTION PAPER]