

**Q1.**

Tom earns £9.20 per hour.

He works for

24 hours each week  
48 weeks each year.

He pays tax if he earns more than £10 000 per year.

Does Tom pay tax?

You **must** show your working.

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**(Total 2 marks)**

**Q2.**

Hayley and Tom have £2000 to spend on food at their wedding.

Here are their two options.

**Wonderful Weddings!**

Normal price                      £32 per person

**Special offer**

10% off

**Kim the Caterer**

Number of people	Price per person
100 & over	£24.50
80 to 99	£26.50
60 to 79	£28.50
up to 59	£30.50

Work out the **maximum** number of people they can pay for.

Show working to compare the maximum number of people for **both** options.

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Answer .....

**(Total 5 marks)**

**Q3.**

A company claims the following miles per gallon for two cars.

<b>Car A</b>	68 miles per gallon
<b>Car B</b>	55 miles per gallon

The driver of car *A*

gets 30% **fewer** miles per gallon than claimed and drives 15 000 miles.

The driver of car *B*

gets three-quarters of the miles per gallon claimed and drives 12 000 miles.

Which driver uses more fuel?

You **must** show your working.

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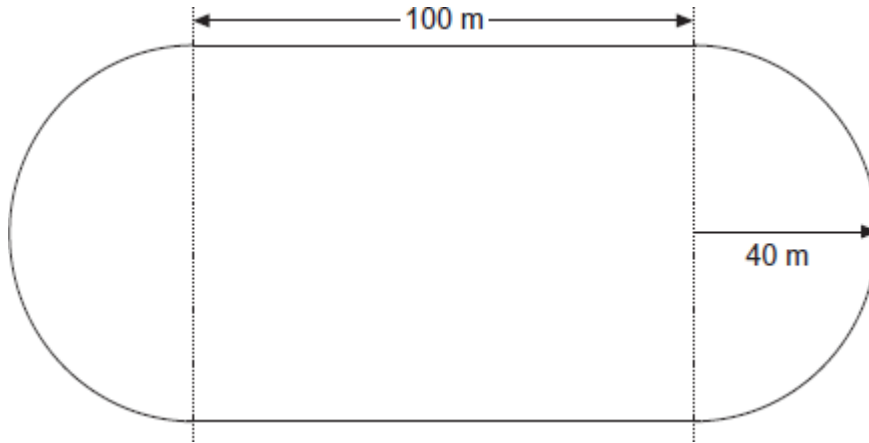
Answer .....

**(Total 5 marks)**

**Q4.**

A cycle track has two identical semi-circular ends and two straight sides as shown.

Not drawn accurately



A cyclist completes one lap.

Her average speed is  $18 \text{ m / s}$

Her target time to complete one lap is 30 seconds.

Does she beat her target?

You **must** show your working.

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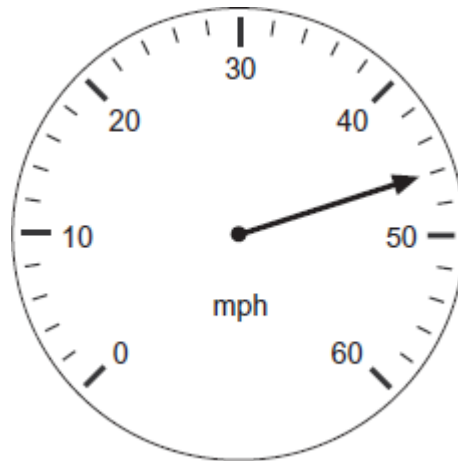
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Answer .....

**(Total 4 marks)**

**Q5.(a)** Write down the speed shown on the speedometer.



Answer ..... mph

(1)

- (b) A car travels for 1 hour 30 minutes at an average speed of 28 mph.  
How many miles does the car travel?

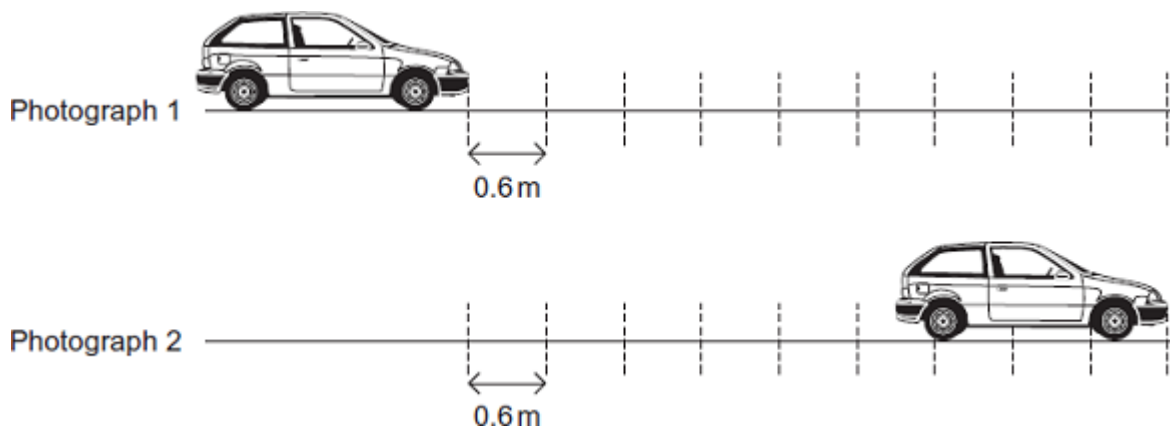
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Answer ..... miles

(3)

(Total 4 marks)

- Q6.(a) A speed camera takes two photographs of a car.



Photograph 2 was taken 0.5 seconds after Photograph 1.  
 Marks on the road are 0.6 metres apart.

Calculate the average speed of the car in m/s.

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Answer ..... m/s

(3)

(b) You are given that

$$1 \text{ kilometre} = 1000 \text{ metres}$$

and

$$1 \text{ hour} = 3600 \text{ seconds}$$

A lorry is travelling at 13.6 m/s.  
 The speed limit is 50 km/h.

Show that the lorry is travelling below the speed limit.

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(3)

(Total 6 marks)

**Q7.**Ellie drives 169 miles from Sheffield to London.

She drives at an average speed of 65 miles per hour.  
 She leaves Sheffield at 6:30 am.

Does she arrive in London before 9:00 am?  
 You **must** show your working.

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**(Total 4 marks)**