

Functional Skills
 Maths Assessment
 Level 1

Learner name

Learner signature

Centre Number

Assessment Date

Question	Available marks	1 st Marker	2 nd Marker
Task 1			
Q1a	2		
Q1b	1		
Q1c	2		
Q1d	8		
Q1e	6		
Q1f	4		
Q1g	2		
Q1h	5		
Task 2			
Q1a	5		
Q1b	3		
Q1c	2		
Q1d	4		
Total	45		

Instructions to candidates

You may use a calculator.

You **will** need a pen, pencil and ruler.

You **may** need access to a 90° set square, a compass, and a protractor.

Use only blue or black ink. Pencil **must only** be used for drawing.

There are 2 tasks in this assessment.

You must attempt ALL tasks.

Total marks available: 45

You have **one hour and thirty minutes** to finish the assessment.



L1 M TBM KH 032018

Task 1

John wants to buy a new dump truck for his motorway excavation business.



£46,500

The salesman says

'If you buy this dump truck with cash John, I'll give you a discount of 5% '

1a) If John pays for the dump truck with cash, what will the discounted amount be?

Show any workings out and your answer.

(2 marks)

1b) Show how you can check your answer.

(1 mark)

John decides to buy a different dump truck.

He also buys a road tax disc, floor mats and insurance.

He works out what he has paid.

Item	Amount per item	Total cost of items
Dump Truck		£37000.00
Insurance		£ 899.00
Rubber floor mats x 2	£44.98	£
Road tax disc		£ 270.00
Total amount owed		£38258.96

1c) How much does John pay for 2 floor mats?

Show any workings out and your answer.

(2 marks)

1d) Show how you can check your answer.

(1 mark)

John wants to see how diesel petrol prices locally compare with diesel prices nationally.

He checks out how much diesel costs for 1 litre in 5 local garages.

Here are the costs:

133.9p

130.9p

134.9p

132.9p

131.9p

An internet website states that:

- the mean average price of diesel per litre in the UK is 133.9p
- the range of prices of diesel per litre in the UK is 5p

1e) How do the prices of diesel at John's local garages compare with the internet website's statement?

Show any workings out and your answer.

(8 marks)

John has an earthmover on site which needs to be serviced. The earthmover cannot drive on the road, so the mechanics need to come to site.

A local garage charges £99.99 for a full service.

An internet website shows this offer:



If John has a full service done by the local garage, there are no extra costs involved.

If John has a full service done by the garage advertised on line, he knows that the travel costs need to be added.

- Travel costs will be from Leeds to Rotherham and back
- The distance from Leeds to Rotherham is 36 miles
- 9 miles will use 1 litre of petrol
- 1 litre of petrol costs £1.34
- An additional £20.00 call out charge will also be added

John thinks it will be cheaper to have the earthmover serviced using the internet offer.

1f) Is John correct?

Show any workings out and your answer.

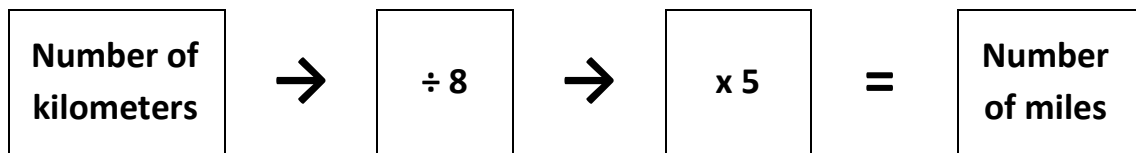
(6 marks)

John has sold the earth mover to Salem and this needs to be transported to a new site 120km away.

Salem needs to work out how long it will take to move the earthmover on a low loader.

He knows that load of this size will normally travel at a speed of 60 miles per hour.

Salem knows that to change kilometres to miles he must use this formula:



He also knows this formula:

$$\text{Time of journey} = \frac{\text{total distance}}{\text{average speed}}$$

1g) Use the information above to work out how long it will take to move the earthmover to the new site.



Show any workings out and your answer.

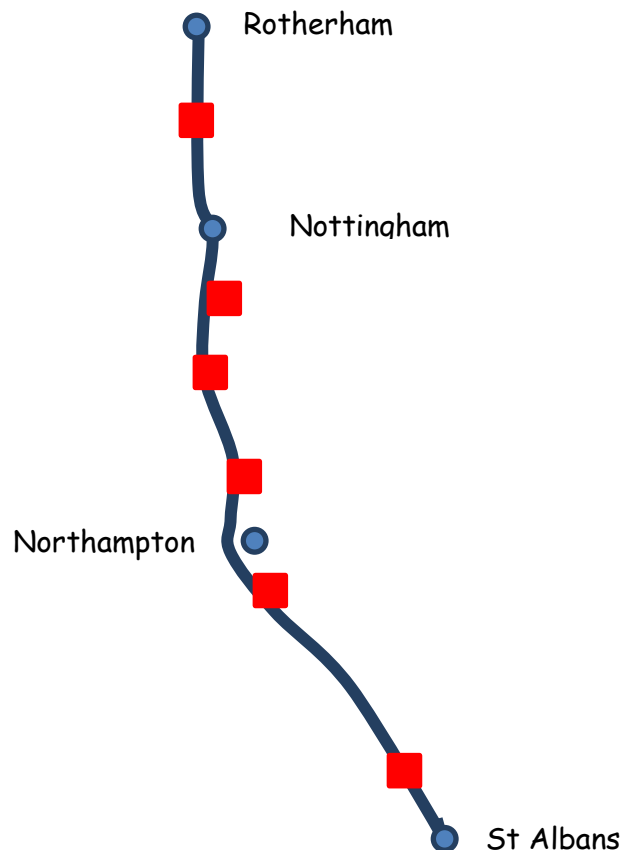
(4 marks)

Salem is going to drive along the M1 motorway **from** Rotherham **to** St Albans.

He has this sketch (not drawn to scale) of the M1 motorway showing some of the service stations.

Salem will need to stop for a break after completing around 40% of his journey.

Key	
	Motorway service station
	City



1h) Circle on the map the service station Salem should stop at. Explain why you have circled this service station.

Show any workings out and your answer.

(2 marks)

Salem needs to clean the earthmover before transporting so that no debris will fall off during transportation.

He uses a petrol jet wash to clean the earthmover.

He needs to mix oil with the petrol to lubricate the jet wash.



250ml of oil

The instructions on the jet wash say:

mix 1 part oil to 4 parts petrol.

The petrol tank holds **5 litres** of fluid.

Salem thinks that he will be able to fill the petrol tank if he buys **3** bottles of the oil.

1i) Is Salem correct?

Show any workings out and your answer.

(5 marks)

Task 2

Martin hires out dump trucks, earthmovers, diggers and cranes to 4 construction sites.

Martin wants to record how many of each vehicle are on which site.

The 4 sites are:

- Rotherham
- St Albans
- Gateshead
- Sittingbourne

1a) Design a data collection sheet which Martin can use to record how many of each vehicle are at which site.

Show any workings out and your answer.

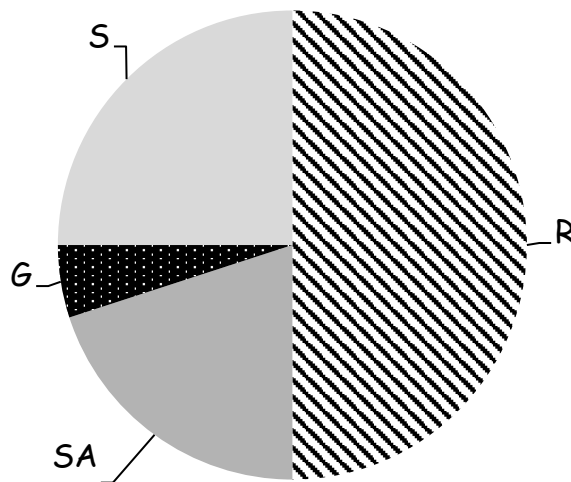
(5 marks)

Martin has 120 vehicles across the 4 sites.

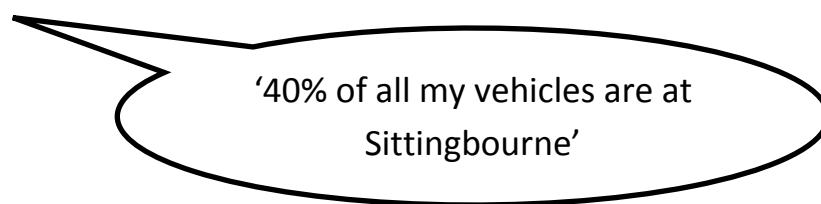
- Rotherham = R
- St Albans = SA
- Gateshead = G
- Sittingbourne = S

He wants to know which site has hired the most vehicles. He draws this pie chart.

Pie chart showing vehicle hire at each site



Martin says:

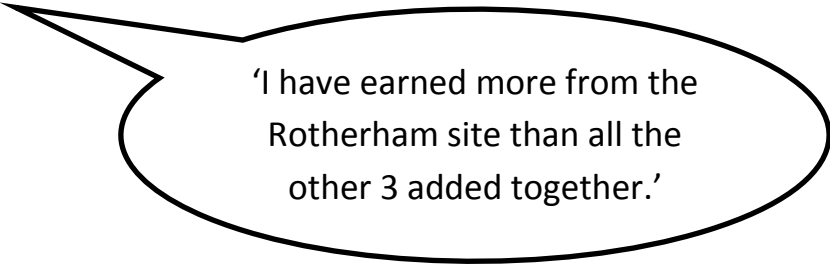


1b) Is Martin correct? Explain your answer.

Show any workings out and your answer.

(3 marks)

Martin says:



'I have earned more from the Rotherham site than all the other 3 added together.'

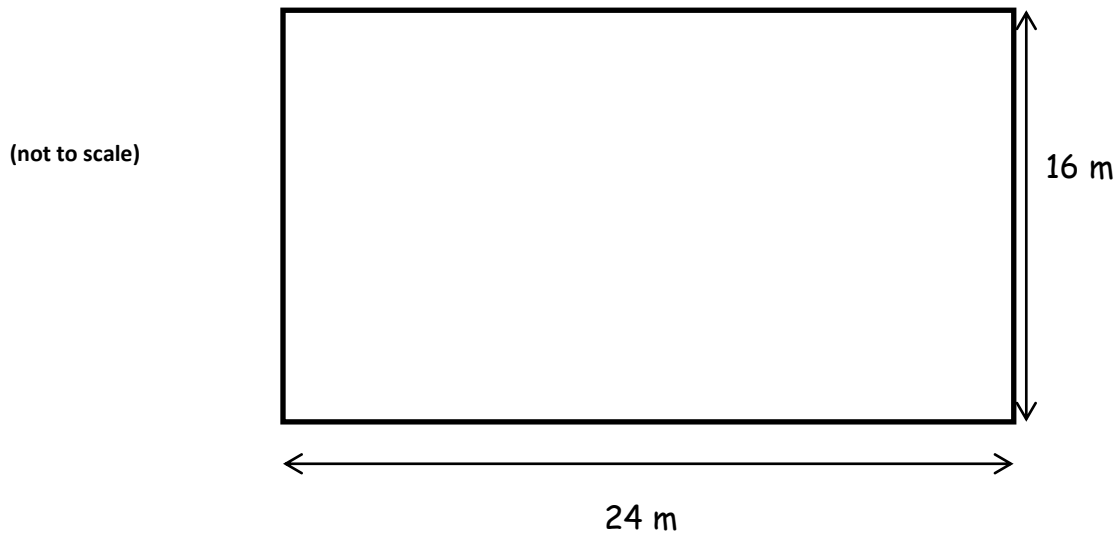
1c) Is Martin correct? Explain your answer.

Show any workings out and your answer.

(2 marks)

The compound where Martin keeps the hire vehicles needs to have the concrete floor replaced.

Here is a diagram of the compound.



Martin wants to know how much he can expect to pay for the concrete.

His friend tells him that he had an area of 100 square metres covered in concrete. It cost him £4000.

1d) Work out an **approximate** cost of covering the driveway in concrete using the information given.

Show any workings out and your answer.

(4 marks)

END OF ASSESSMENT

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