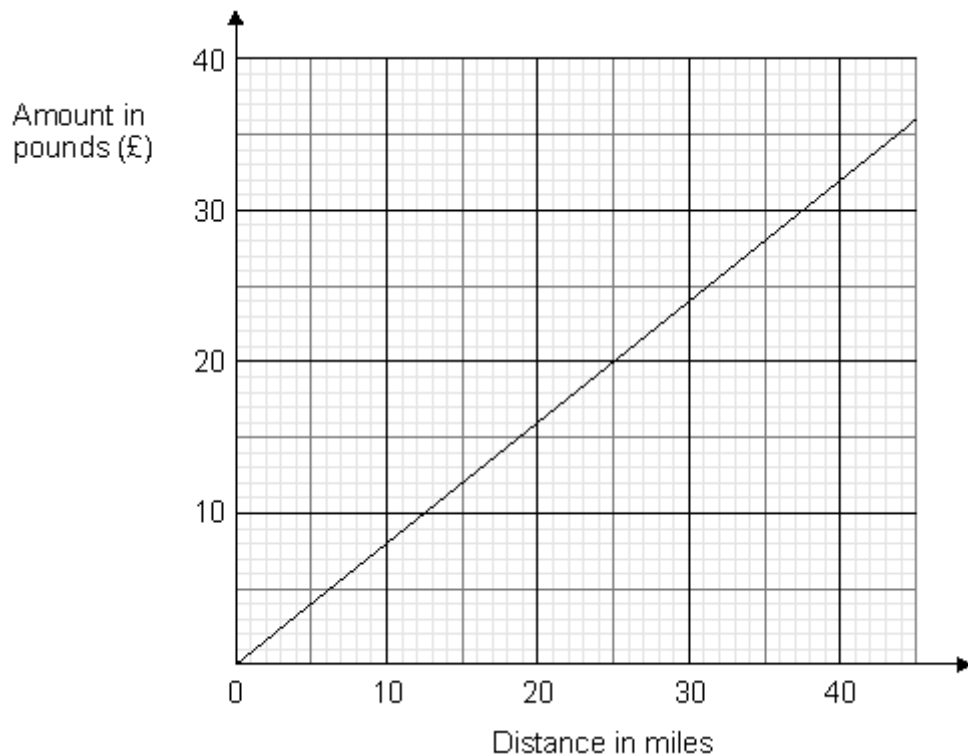


- Q1.** Sophie's company pays her 80p for each mile she travels.  
The graph can be used to work out how much her company pays her for travel.



Sophie travels 20 miles.

- (a) Work out how much her company pays her.

£ .....

(1)

Sophie's company paid her £60

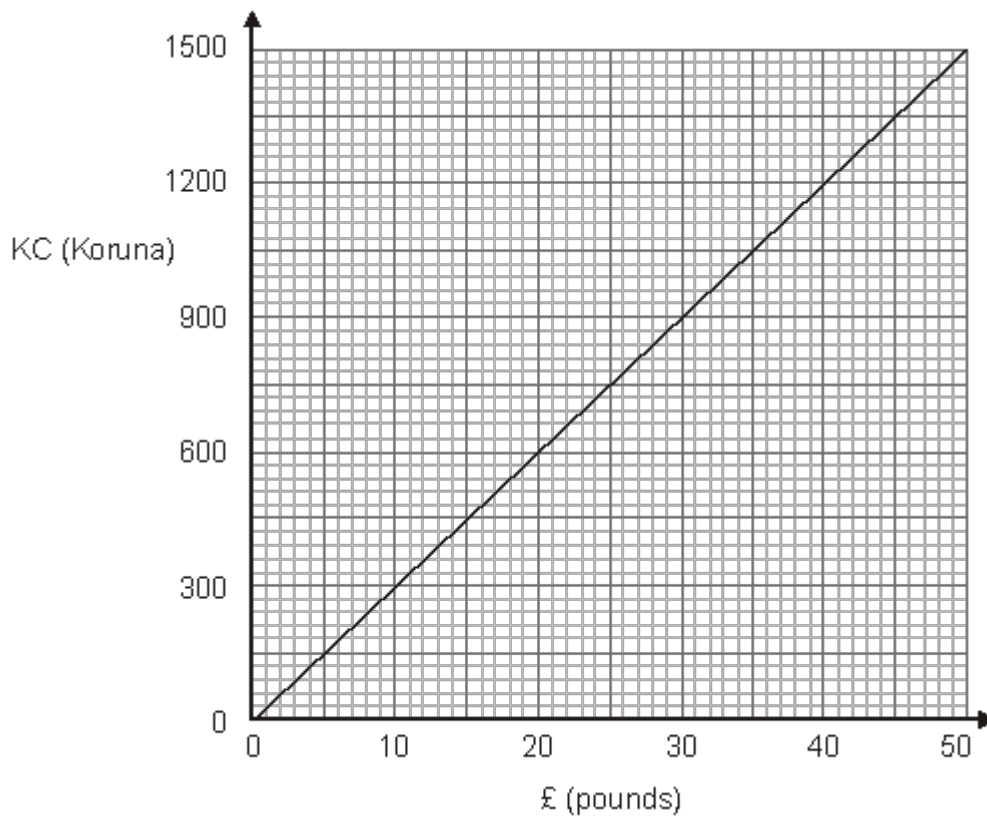
- (b) Work out the distance Sophie travelled.

..... miles

(2)  
(Total 3 marks)

**Q2.** Barbara goes on holiday to Prague. The currency in Prague is the Koruna (KC).

This graph can be used to convert between £ (pounds) and KC (Koruna).  
The exchange rate is £1 = 30 KC.



Barbara bought some things in London.  
She saw the same things on sale in Prague.

The table shows the cost in £ (pounds) and the cost in KC (Koruna).

Item	Cost in London £ (pounds)	Cost in Prague KC (Koruna)
------	------------------------------	-------------------------------

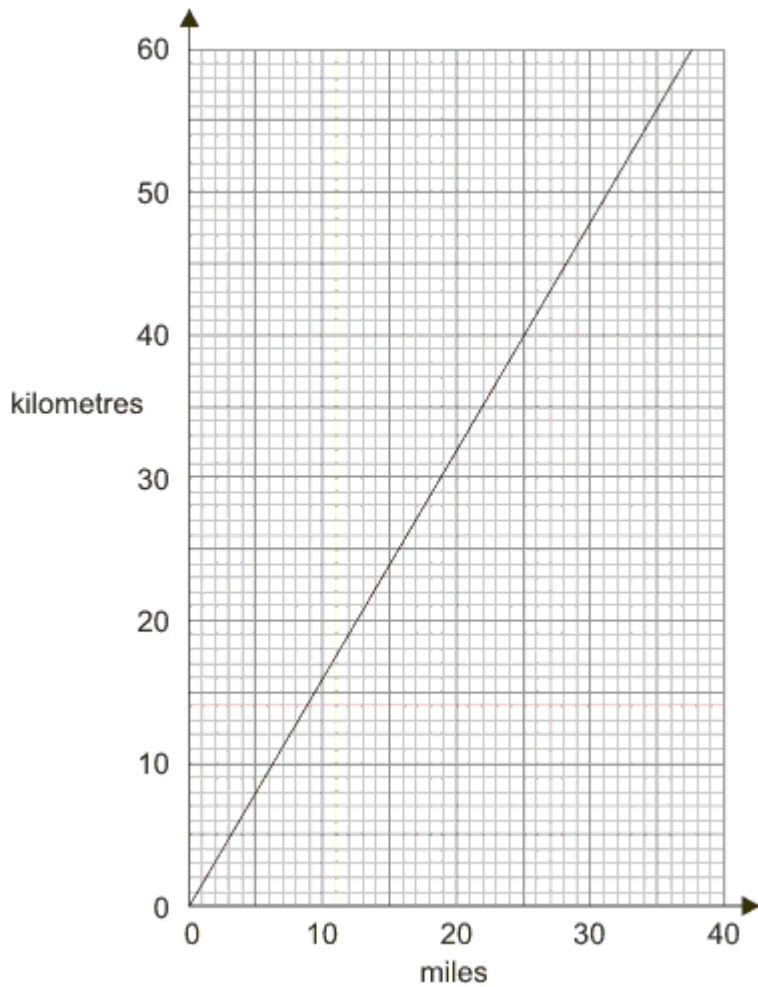
Headphones	£15	450 KC
Suitcase	£34	750 KC
Music player	£26	810 KC

Barbara thinks the total cost of these things was more in London than in Prague.

Is she correct?  
Give a reason for your answer.  
You must show all your working.

(Total 5 marks)

**Q3.** This conversion graph can be used to change between miles and kilometres.



(a) Use the graph to change 30 miles to kilometres.

..... kilometres

(1)

(b) Use the graph to change 40 kilometres to miles.

..... miles

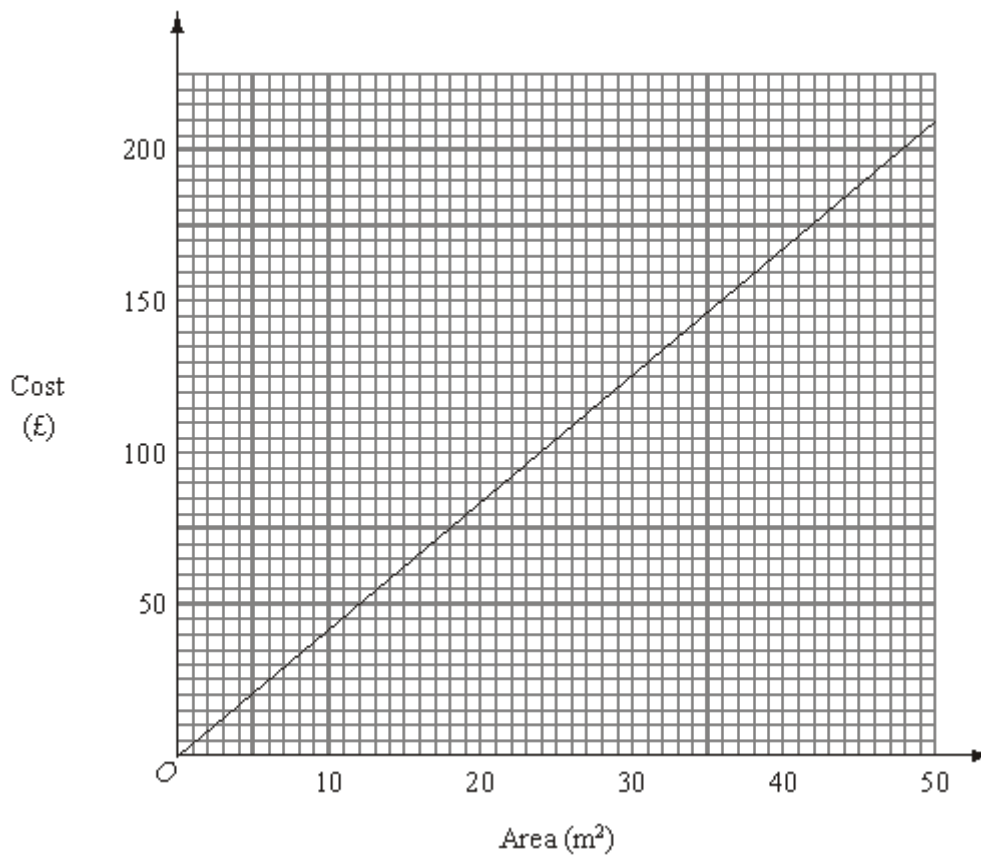
(1)

(c) Change 100 miles to kilometres.

..... kilometres

(2)  
(Total 4 marks)

**Q4.** John cleans carpets of different areas.  
He uses this graph to work out the cost of cleaning a carpet.



A carpet has an area of 30 m<sup>2</sup>.

(a) Use the graph to find the cost of cleaning this carpet.

£ .....

(1)

It costs £150 to clean another carpet.

(b) Use the graph to find the area of this carpet.

..... m<sup>2</sup>

(1)

A rectangular carpet has a length of 8.6 m.  
It has a width of 5 m.

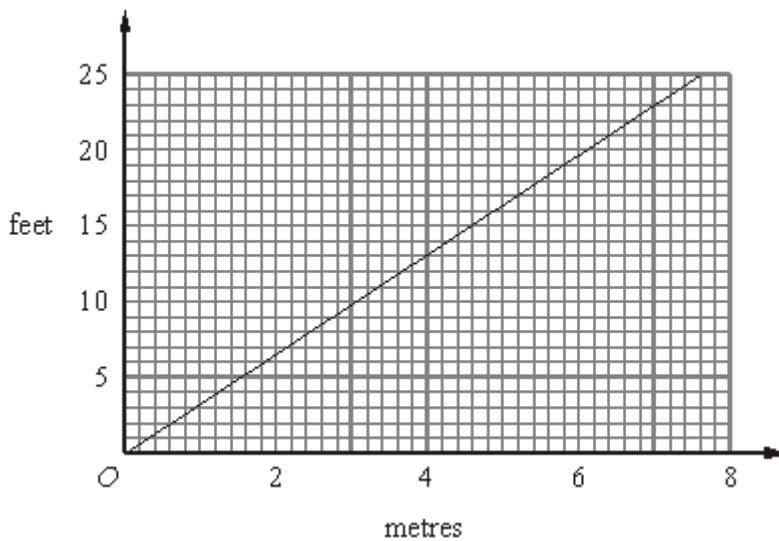
(c) Work out the cost of cleaning this carpet.

£ .....

(3)

(Total 5 marks)

**Q5.**



This conversion graph can be used to change between metres and feet.

(a) Use the conversion graph to change 6 metres to feet.

..... feet

(1)

(b) Use the conversion graph to change 8 feet to metres.

..... metres

(1)

Robert jumps 4 metres.  
James jumps 12 feet.

(c) (i) Who jumps furthest, Robert or James?

.....

(ii) How did you get your answer?

.....

.....

(2)

(Total 4 marks)

M1.

	Working	Answer	Mark	Additional Guidance
(a)	$0.80 \times 20$ OR reading from graph at distance = 20 miles	16	1	<b>B1</b> cao
(b)	$\pounds 20 = 25$ miles $25 \times 3 = 75$ OR $60 \div 0.8 = 75$	75	2	<b>M1</b> for using $\pounds 20 = 25$ miles oe and intention to multiply OR <b>M1</b> for $60 \div 0.8$ OR <b>M1</b> for reading from the graph and an attempt to scale up. le $37 \times 2$ or $38 \times 2$ or $12 \times 6$ or $12.5 \times 6$ or $13 \times 6$ oe And <b>A1</b> 72-78 inclusive
<b>Total for Question: 3 marks</b>				

M2.

Working	Answer	Mark	Additional Guidance
London: $\pounds 15, \pounds 34, \pounds 26$ ( $\pounds 75$ ) → 450, 1020, 780 (2250) KC  Prague: 450, 750, 810 KC (2010KC) → $\pounds 15, \pounds 25, \pounds 27$ ( $\pounds 67$ )  $\pounds$ to KC is $\times 30$ ; KC to $\pounds$ is $\div 30$ .	Yes. Cheaper in Prague (More in London)	5	<b>M1</b> conversion method ( $\times$ or $\div$ as appropriate) or evidence of use of graph (seen, or implied, by at least lines or evidence of conversion by marks on axes) for at least one figure. <b>M1</b> (dep) conversion applied to 3 figures or totals (converted figures must be stated, marks on graph insufficient) <b>A1</b> converted figures shown (all three individual items or totals converted correctly; NB: no tolerance on graph) <b>M1</b> totalling converted amounts <b>C1</b> (dep on at least <b>M1</b> ) comparison of



		<p><b>"totals"</b> and correct conclusion Eg "2250KC" &gt; "2010KC", "£75" &gt; "£67" so cheaper to buy in Prague.</p>
<b>Total for Question: 5 marks</b>		

**M3.**

	Working	Answer	Mark	Additional Guidance
(a)		48	1	<b>B1</b> for an answer in the range 47.5 to 48.2
(b)		25	1	<b>B1</b> cao
(c)	$32 \times 5$ $16 \times 10$ $100 \times 1.6$	155 to 165	2	<p><b>M1</b> for complete method reading from graph then multiplying by a suitable scale factor. Eg <math>1.6 \times 100</math>, <math>8 \times 20</math>, <math>16 \times 10</math>,  <math>32 \times 5</math>, <math>40 \times 4</math>, <math>48 \times 3 \frac{1}{3}</math> or valid use of answer to (a) or (b)</p> <p><b>A1</b> for answer in the range 155 to 165 or ft on their answers to either (a) or (b)</p>
<b>Total for Question: 4 marks</b>				

**M4.**

	Working	Answer	Mark	Additional Guidance
(a)		£123-£127	1	<b>B1</b> £123-£127 inclusive

(b)		35-36	1	<b>B1</b> 35-36 inclusive
(c)	$8.6 \times 5 = 43 \rightarrow$ "£180"	£175-£185	3	<b>M1</b> $8.6 \times 5$ <b>A1</b> 43 <b>A1</b> answers in the range £175-£185 SC: <b>B2</b> for 43
<b>Total for Question: 5 marks</b>				

**M5.**

	Answer	Mark	Additional Guidance
(a)	20	1	<b>B1</b> for 19 to 21
(b)	2.4	1	<b>B1</b> for 2.3 to 2.5
(c)(i) (ii)	Robert	2	<b>B1</b> for Robert with a correct conversion (may be evidenced on the graph) <b>(B1</b> for 'Robert' with a valid explanation or James with a correct conversion) (may be evidenced on the graph) Note: 4m = 13 feet, 12 ft = 3.6m
<b>Total for Question: 4 marks</b>			

##

For part (a) this question was answered correctly by the majority of candidates. The major mistake seen was the decimal point in the wrong place i.e. 1.60 or 1600. Quite a few did not use the graph; they multiplied 20 by 0.8 or 80. There were also a few who added 20 and 80 to get either 100 or 1

For part (b) most candidates attempted this question, with around half gaining full marks. Most of the candidates with the incorrect answers failed to gain the M1 mark because they showed no intention to multiply. The most common error was to read the scale on the graph incorrectly, mainly by inverting the £s and miles. Very few candidates showed the working of  $60 \div 0.8$ .

##

Candidates could either use the graph or the given rate for conversion. Most preferred to use the rate, though poor arithmetical process when multiplying or dividing by 30 again spoiled many answers. The question asked for total costs to be compared, so candidates who only compared the costs of individual items could not gain the full marks. Those usually the graph sometimes made errors in reading off the values from the scale, even though these led to exact values. Examiners had difficulty in awarding marks where presentation was poor, and it was difficult to isolate sound working as evidence for the award of method marks.

##

In part (a), whilst correctly answered by the majority of candidates, 19 (30km into miles), 52 and 58 were common mistakes. Part (b) was usually answered correctly.

In part (c) it was rare to see any working supporting an answer which was often outside the acceptable range. 150 was a typical example of this where, it is presumed, candidates read 10 miles = 15 km from the graph and then used a scale factor of 10. Since this would have been assuming a 2-stage operation, no credit was given.

Many candidates calculated the conversion by a form of a 'build up' method, taking several readings from the graph. This had mixed success. Another popular error was to read off 10 miles correctly as 16 km but then because 102 is 100 their reading of 16 was also squared. A significant number of candidates attempted to convert 100 km into miles.

**E4.** Parts (a) and (b) of this question were well answered. In part (c) the best candidates set out a product and answer with correct units also shown. There was evidence that some candidates arrived at the correct area but misread the graph, usually giving £160 as

the answer. Some worked out the perimeter rather than the area, or gave the area (43) as the answer. It was encouraging to find that most candidates were willing to have a go at this multi-stage problem.

- E5.** All candidates made good attempts at this question. Part (a) was very well done but in part (b) many candidates could not read the horizontal scale correctly with '2.2' being an extremely popular incorrect response. Several candidates wrote their answer without a decimal point, possibly by reading from 8m and then estimating the feet.

In Part (c) most recognised that Robert jumped further but where there was no valid statement, no marks were scored. Many scored both available marks in (c) either by providing one correct conversion or by demonstrating they could do the conversion by appropriate markings on the graph. Some candidates misread the scale again, often losing one of the marks in (c). A few thought that James jumped the furthest and occasionally 'they both jumped the same distance' was seen.