Conversion Graphs - Worksheet

Skill

Group A - Using a conversion graph

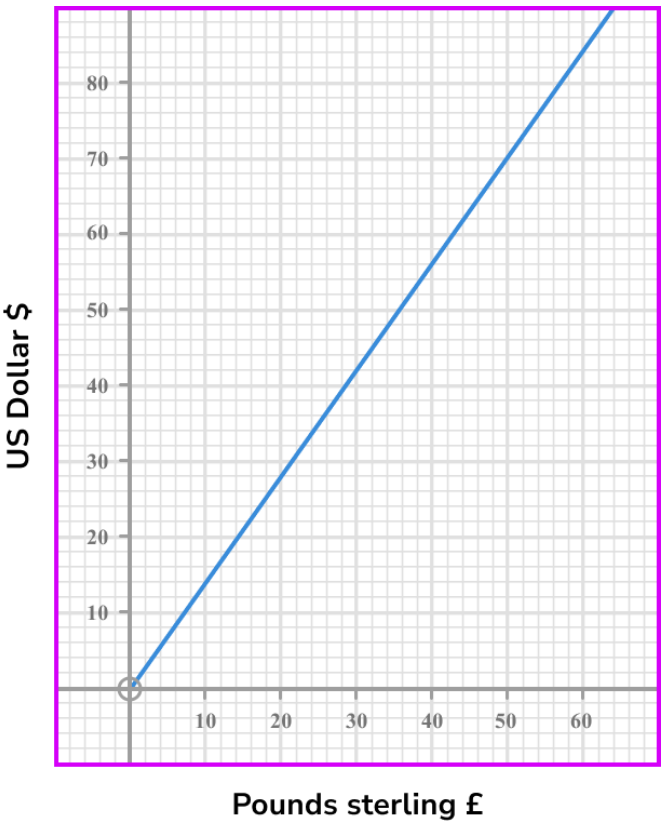
Use the conversion graphs to find the required amounts:

1) The graph shows the conversion between Pounds, £, and US Dollars, $.

Convert:

a. £16 to $

b. $42 to £



2) The graph shows the conversion between centimetres and inches.

Convert:

a. 3 inches to cm

b. 16 cm to inches

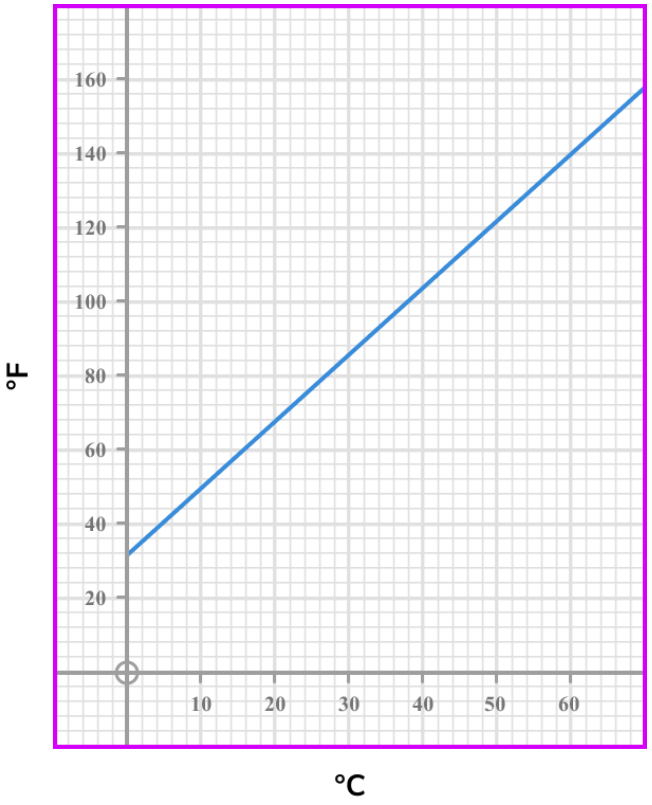
Conversion Graphs - Worksheet

3) The graph shows the conversion between degrees celsius and degrees fahrenheit.

Convert

a. $12°C$ to $°F$

b. $100°F$ to $°C$

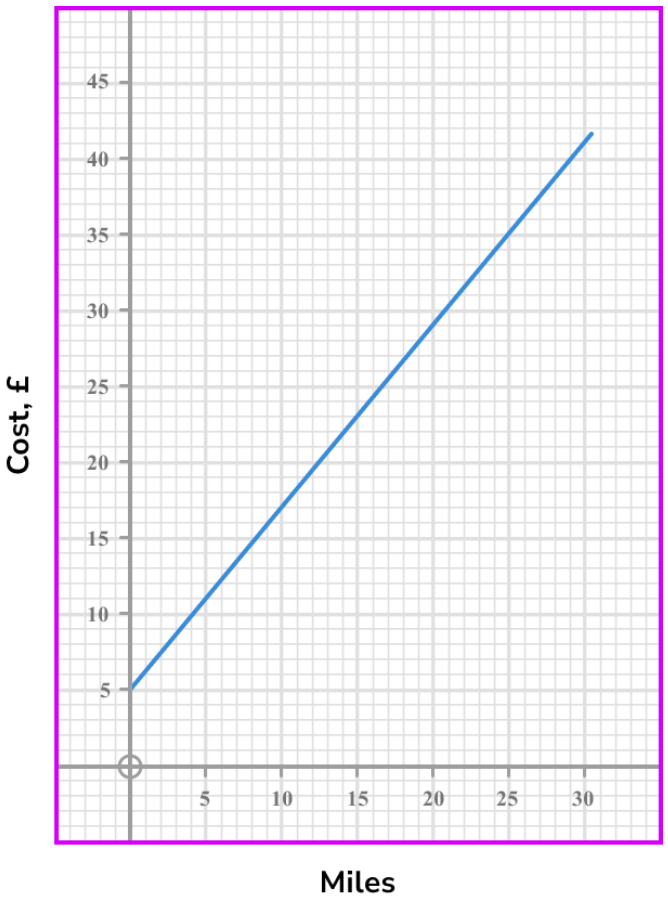


4) The graph shows the conversion between the distance travelled in a taxi and the cost.

Convert

a. 18 miles to £

b. £38 to miles



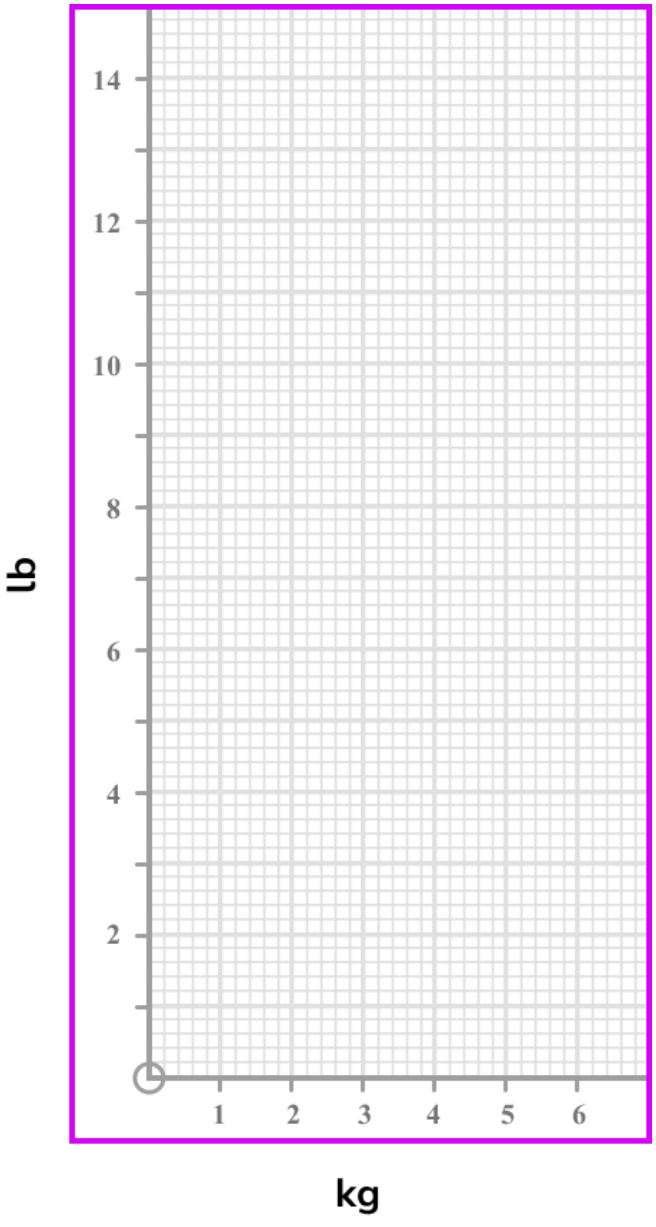
Conversion Graphs - Worksheet

Group B - Drawing conversion graphs

Use the information to draw the conversion graphs:

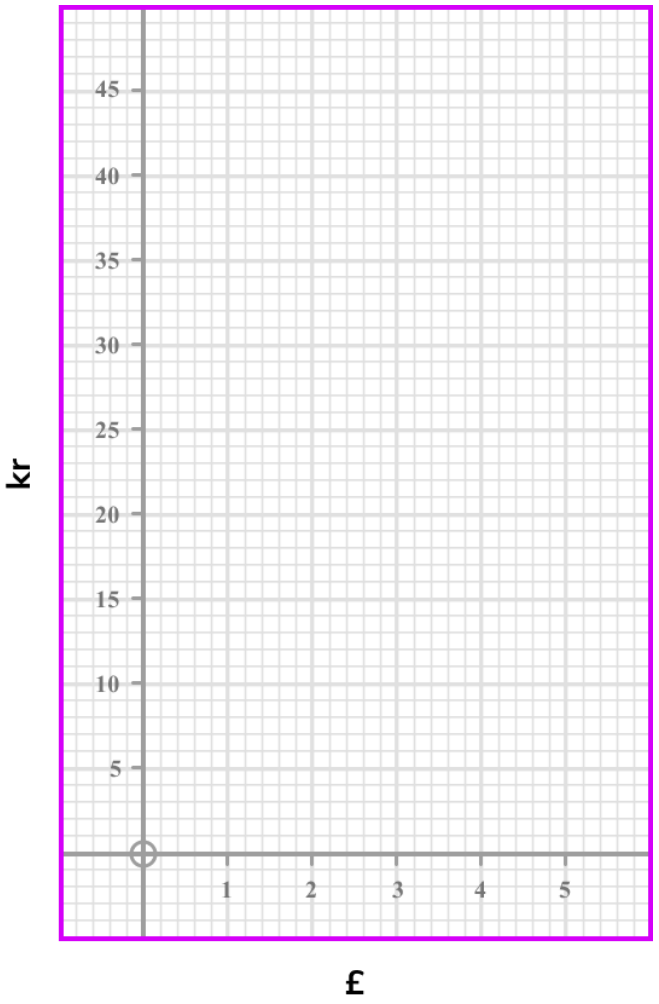
1) The metric unit for mass is the kilogram, kg. An imperial unit for mass is the pound, lb. $1\ kg\ =\ 2.2\ lb$.

Draw a conversion graph on the axes provided.



2) The exchange rate for pounds, £, to Danish Krone, kr, is £1 $=$ $8.8\ kr$.

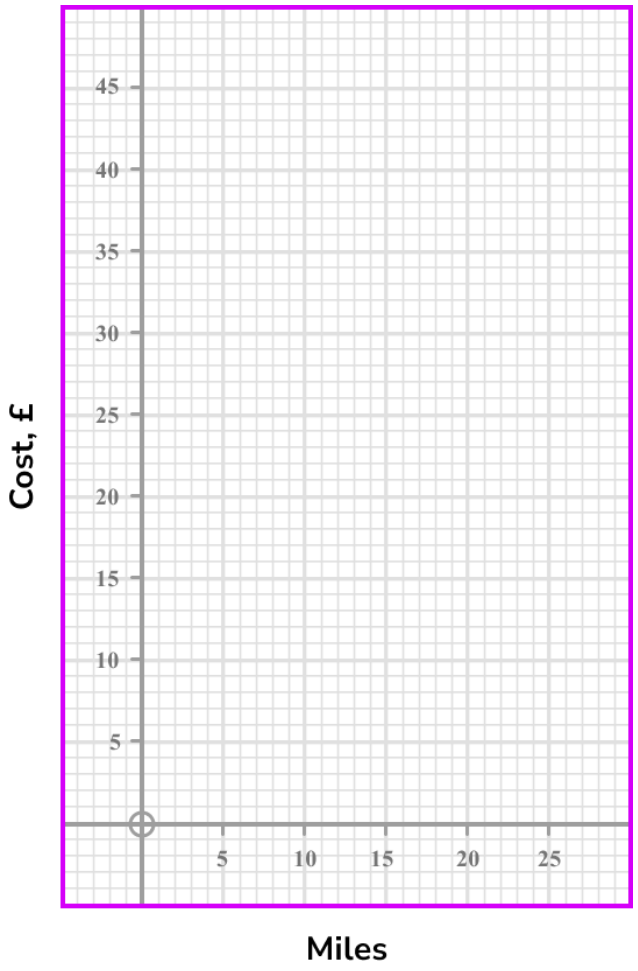
Draw a conversion graph on the axes provided.



Conversion Graphs - Worksheet

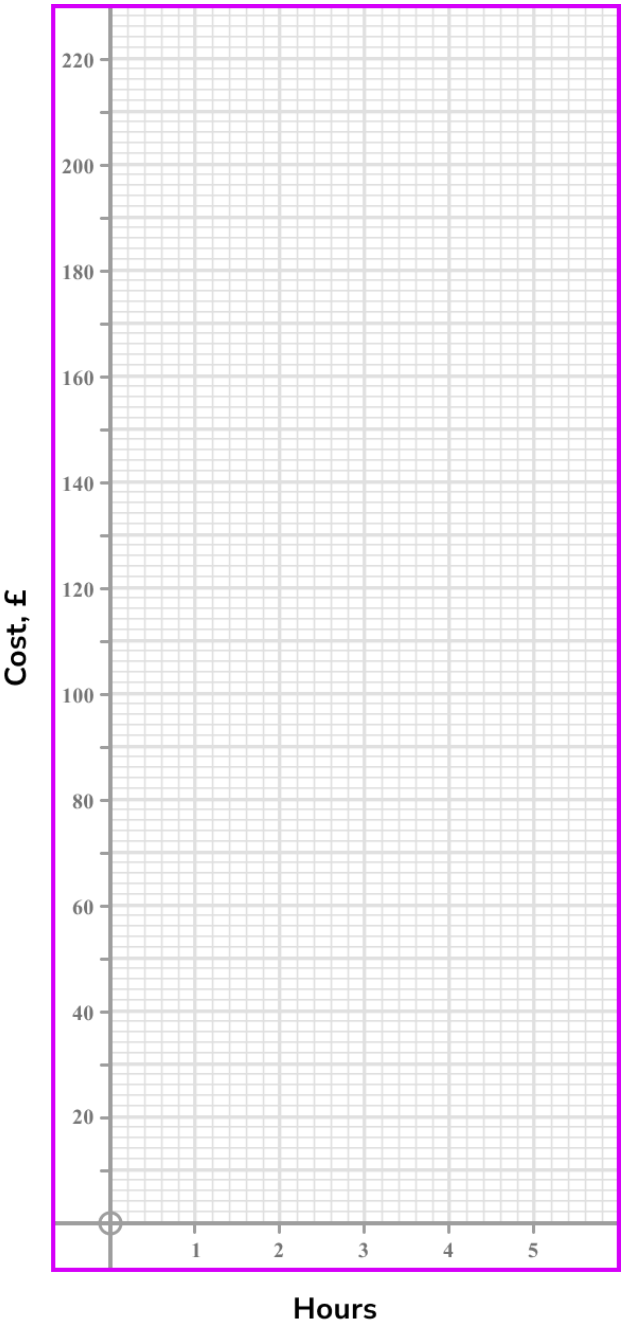
3) A taxi company charges a fixed fee of £8 plus and an extra £1. 40 per mile.

Draw a conversion graph for the distance in miles and the cost in pounds.



4) A plumber charges a callout fee of £30 plus an extra 60 p per minute.

Draw a conversion for the time in hours and the cost of hiring the plumber.



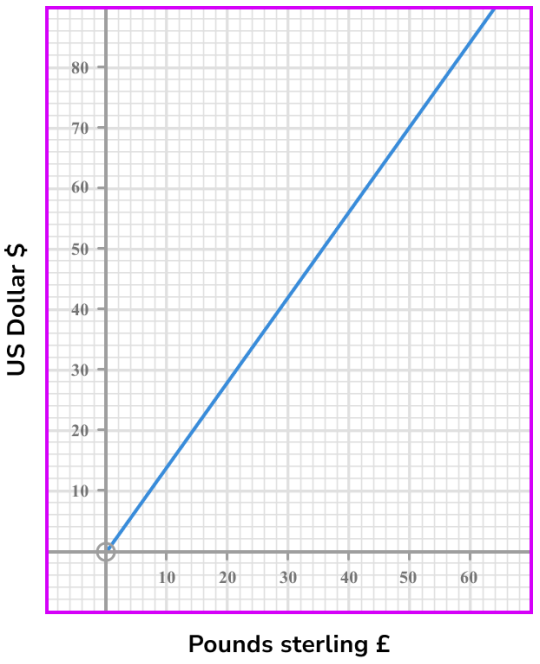
Conversion Graphs - Worksheet

Group C - Extrapolating from conversion graphs

Use the conversion graphs to extrapolate the required amounts:

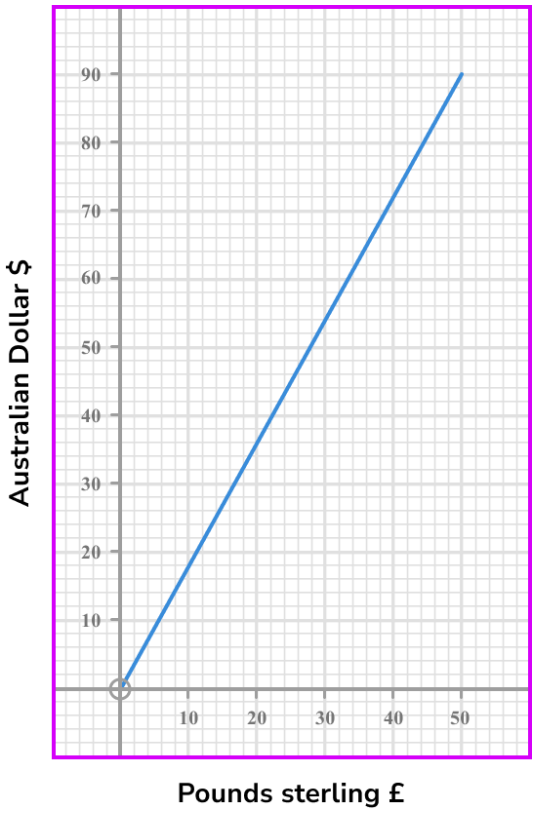
1) The graph shows the conversion between Pounds, £, and US Dollars, $.

Convert £400 to $



2) The graph shows the conversion between Pounds, £, and Australian Dollars, $.

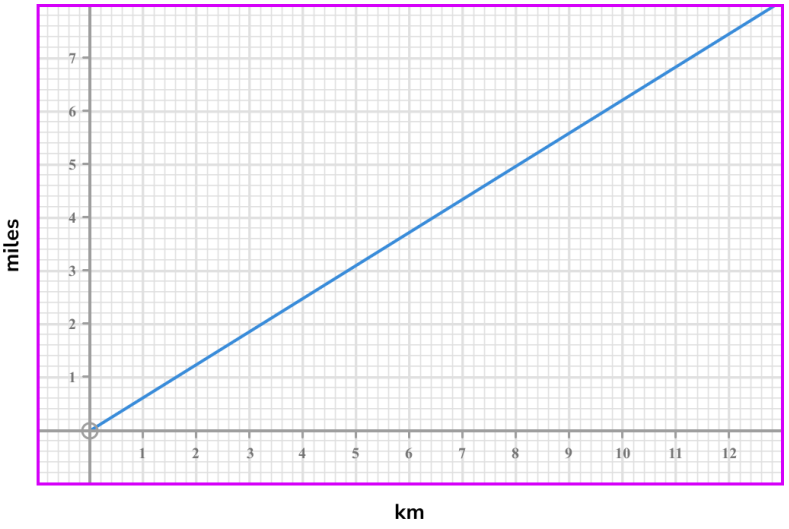
Convert $6800 to £



Conversion Graphs - Worksheet

3) The graph shows the conversion between kilometres and miles.

Convert $45\ km$ to miles



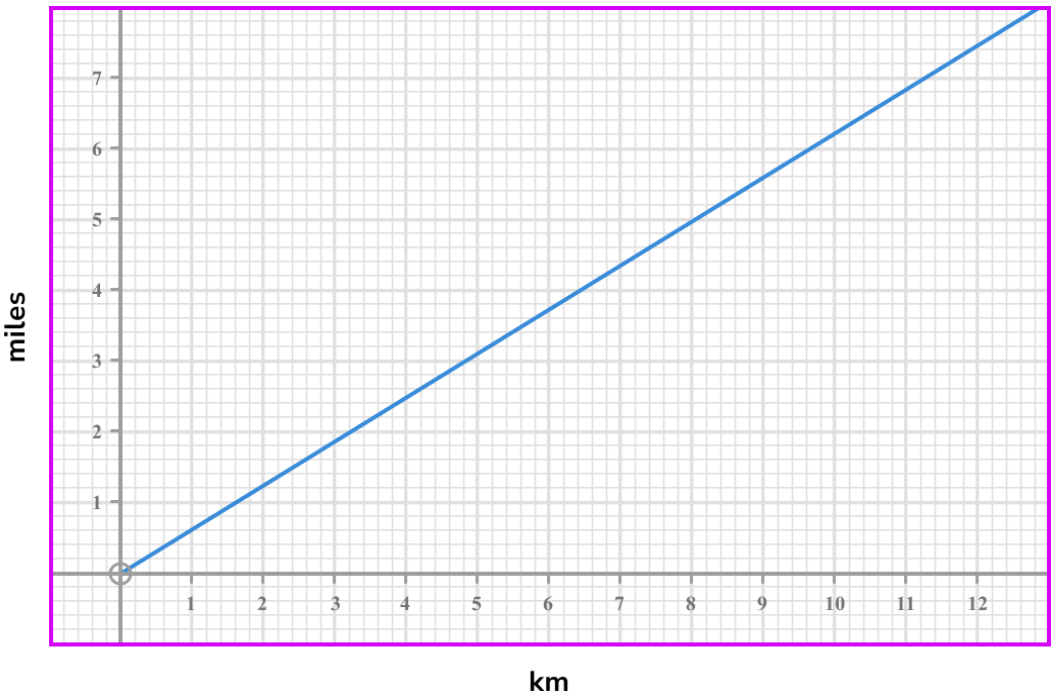
4) The graph shows the conversion between centimetres and inches.

Convert $7.5\ metres$ to inches.

Conversion Graphs - Worksheet

Applied

1) The graph shows the conversion between kilometres and miles.



Trevor is planning a driving holiday across Europe. His speedometer only tells him his speed in miles per hour. The road signs in Europe give the speed limits in kilometres per hour.

(a) One road in Europe has this speed limit sign

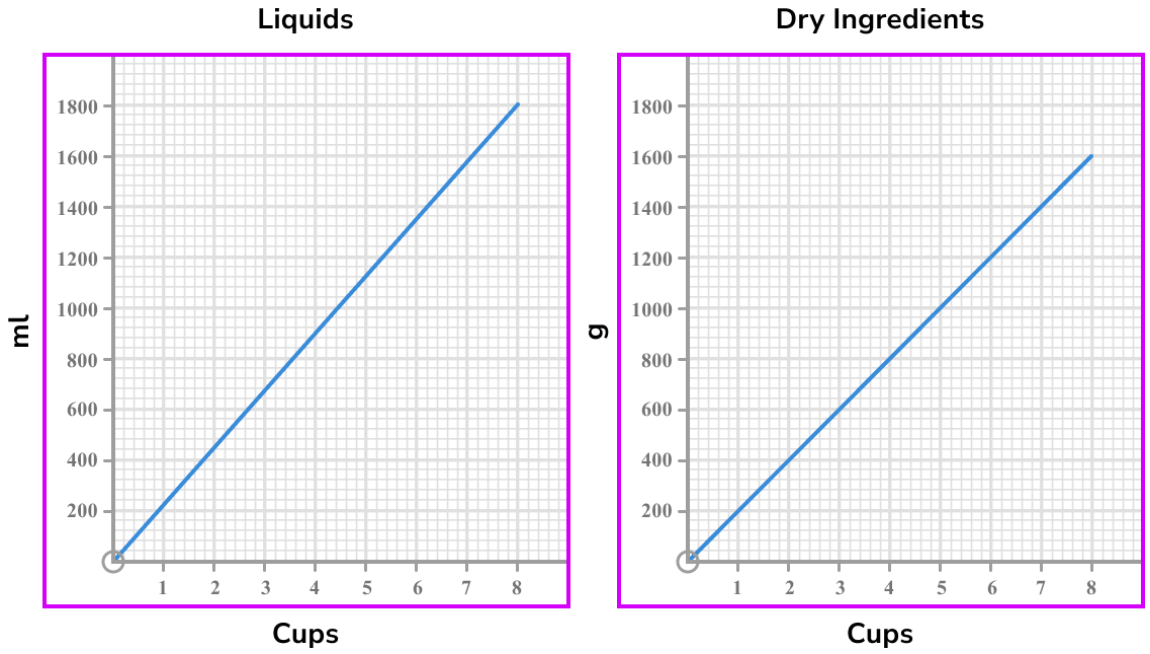
Use the conversion graph to convert this speed to miles per hour.

(b) On his way to Calais, Trevor sees this sign.

Trevor's car is electric and tells him it only has a range of 140 miles remaining. Does he have enough range to make it to Calais, before needing to recharge?

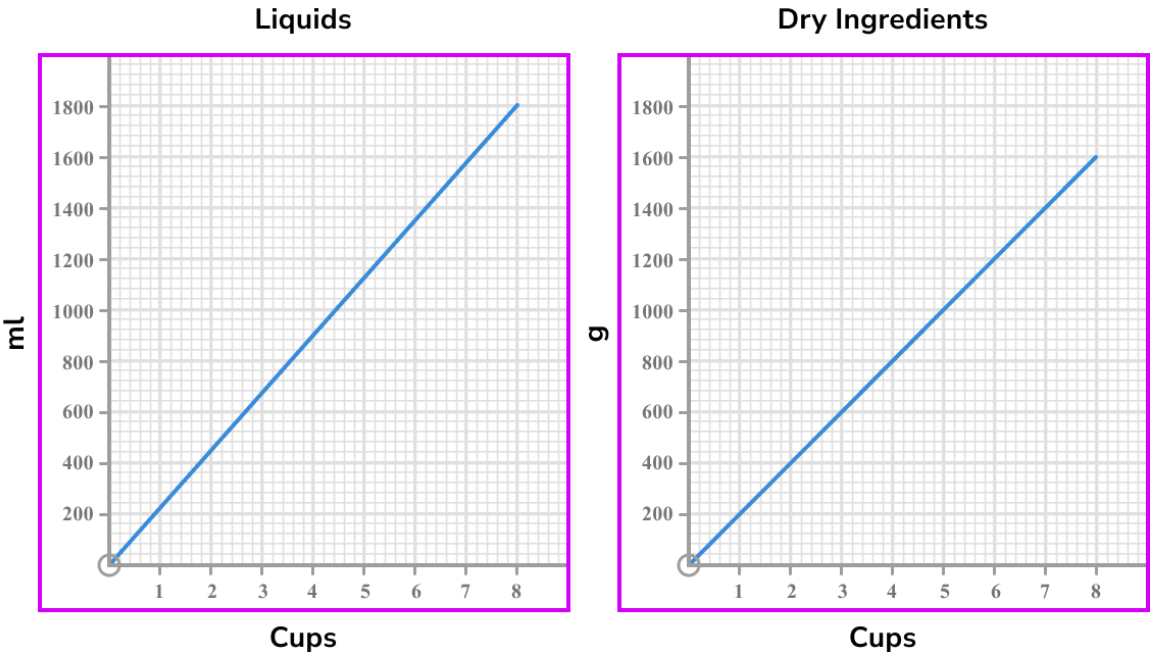
Conversion Graphs - Worksheet

2) Sam is baking and has found a recipe from an American website.
The recipe uses cups as a measuring unit. The two graphs show the conversion between cups and metric units for liquids and dry ingredients.



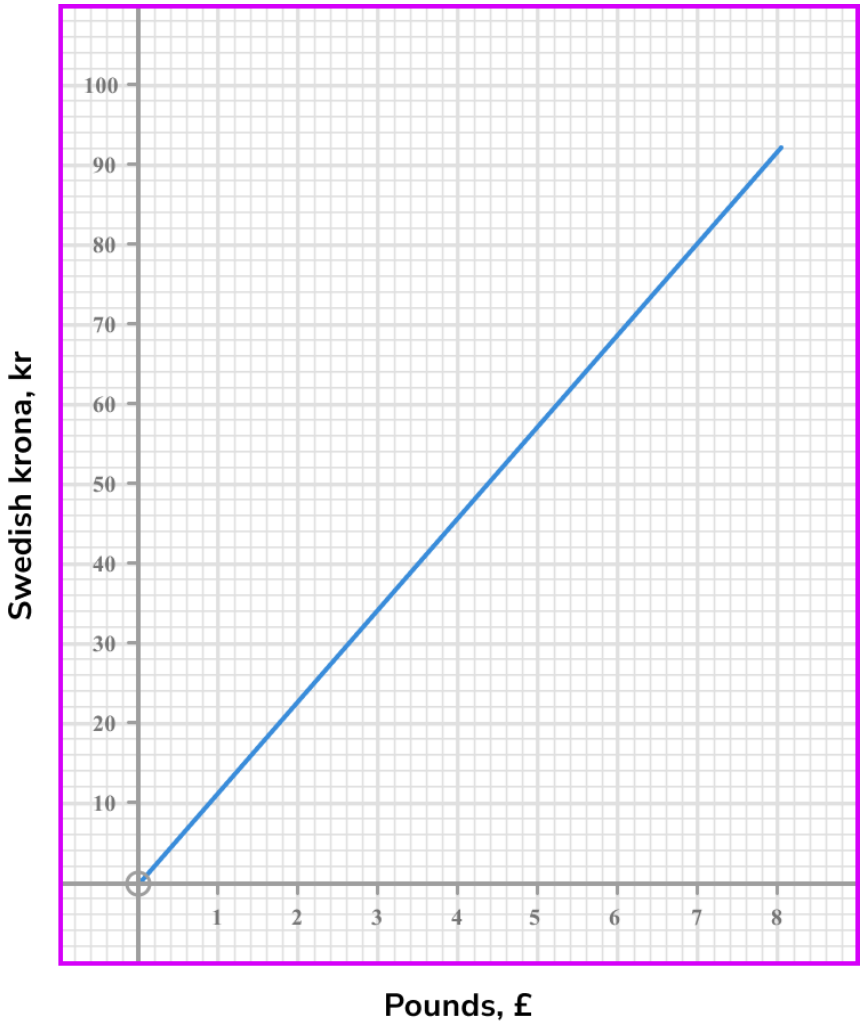
(a) The recipe asks for 4 cups of milk. Convert this to millilitres.

(b) Sam has exactly one quarter of a 1 kg bag of flour. The recipe requires 2 cups of flour. Does Sam have enough?



Conversion Graphs - Worksheet

3) The graph shows the conversion between Pounds, £ and Swedish Krona, kr.



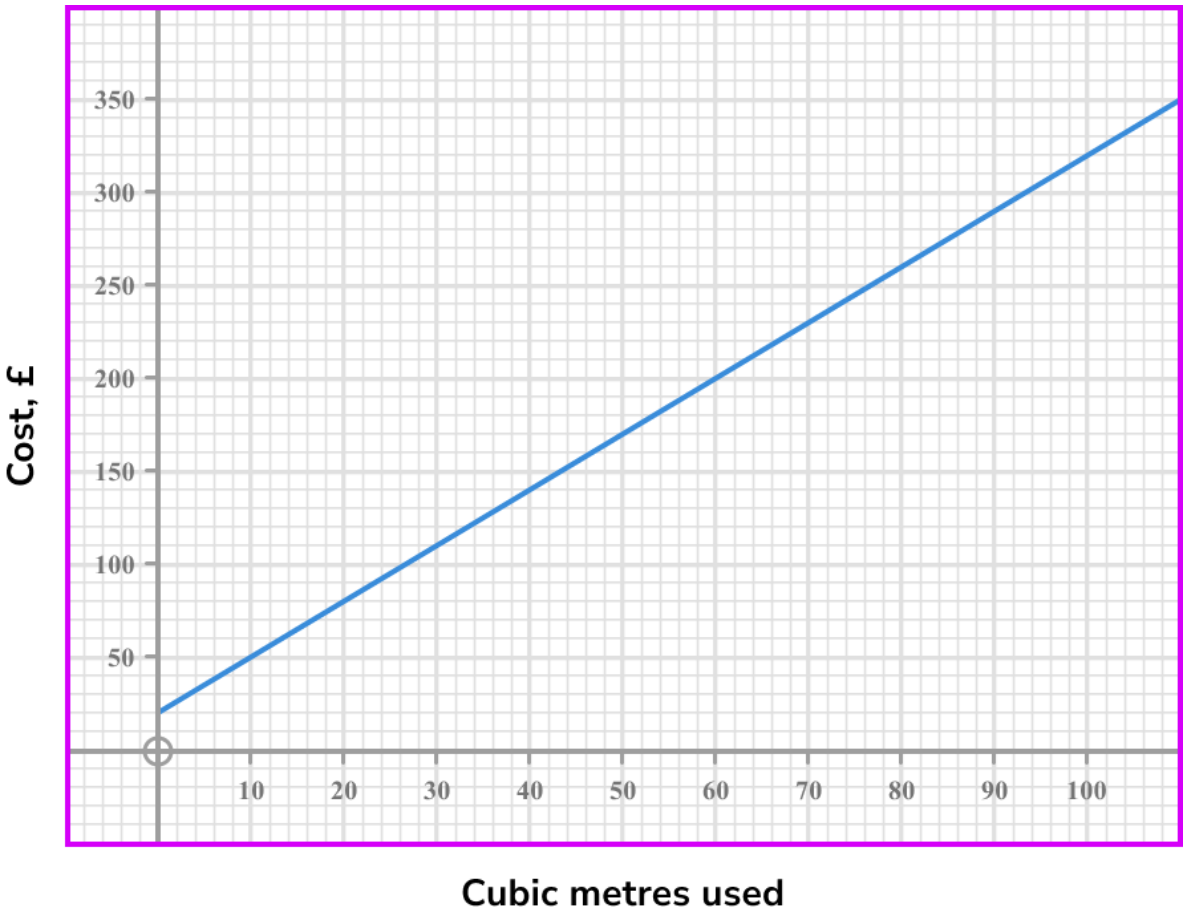
A one way flight from London to Stockholm in Sweden costs £70 if purchased from the airline company. The return flight from Stockholm when bought in Sweden costs 700 Krona.

(a) Sarah decides to book both flights in the UK through a discount website and is charged £125. Approximately how much money does she save? Give your answer in pounds.

(b) Sarah wants to exchange some pounds to Swedish Krona. The bank only has 100 Krona notes available. How many 100 Krona notes can Sarah get for £250?

Conversion Graphs - Worksheet

4) A water company charges a fixed monthly cost and then an additional fee per cubic metre or water used. The graph shows the conversion between the amount of water used and the cost.

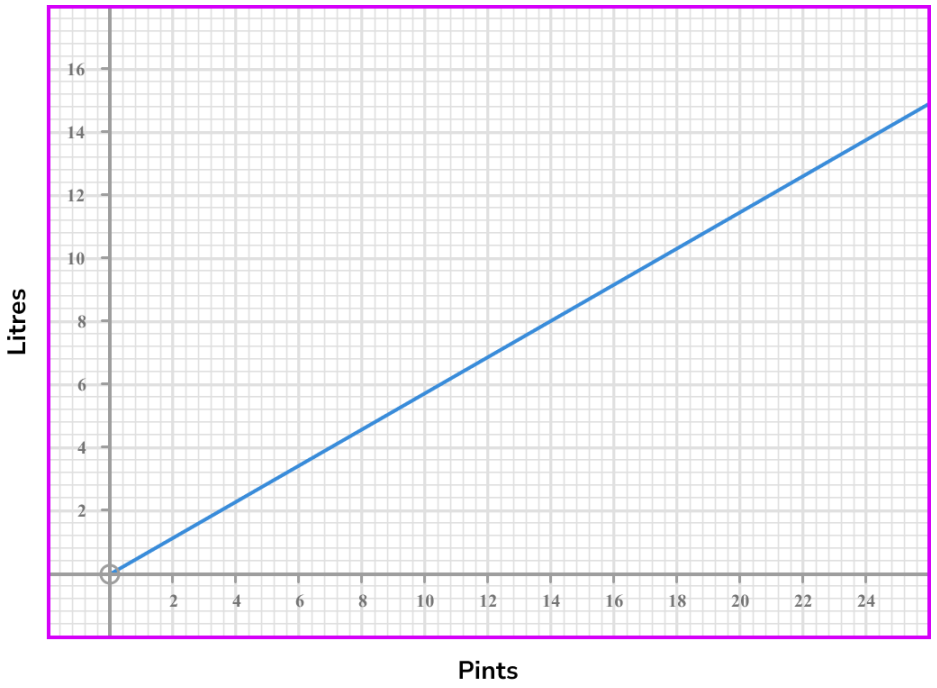


(a) Find the cost of using 70 cubic metres of water.

(b) State the fixed charge and find the additional fee per cubic metre.

Conversion Graphs - Exam Questions

1) The graph shows the conversion between pints and litres.



(a) Use the graph to estimate the number of litres equivalent to 14 pints.

.....

(1)

(b) Use the graph to estimate the number of pints equivalent to 12 litres.

.....

(1)

(c) A bath can hold 70 litres of water. Estimate the number of pints equivalent to 70 litres.

.....

(2)

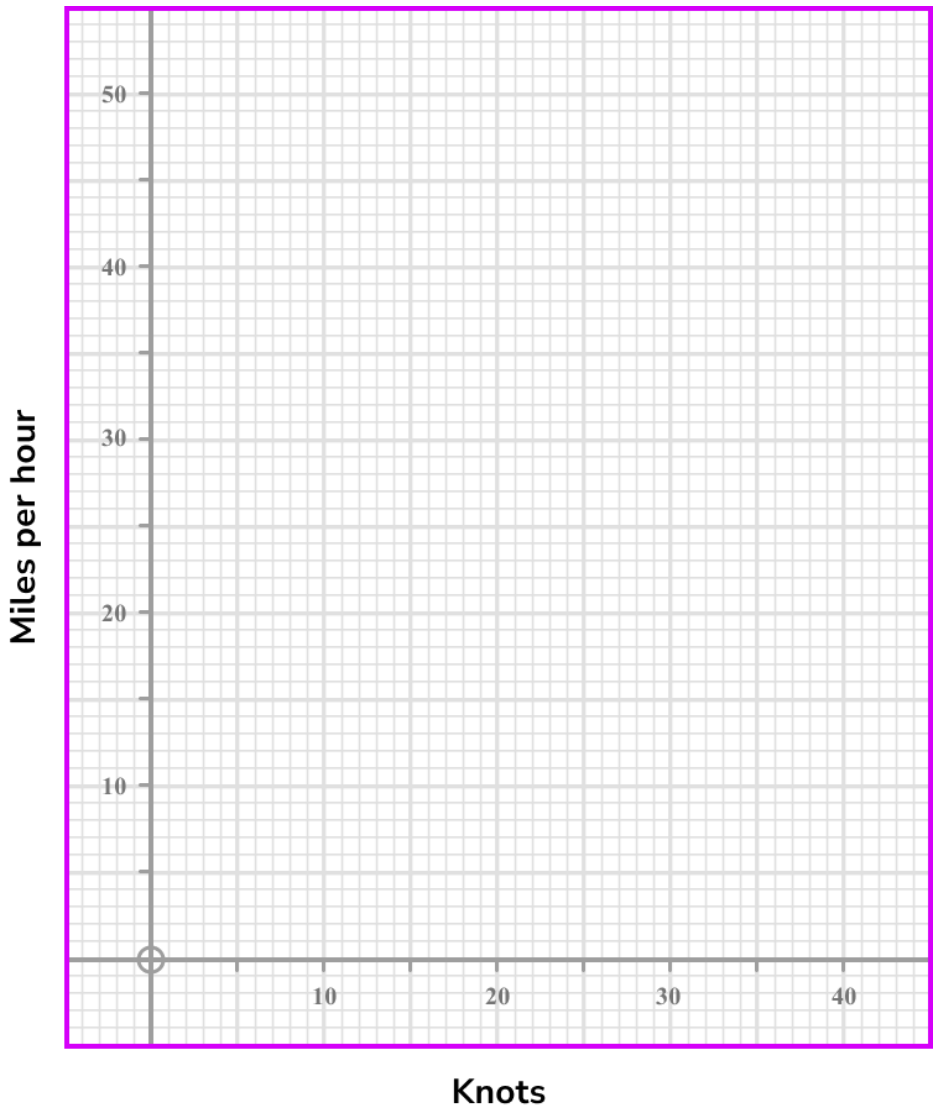
(4 marks)

Conversion Graphs - Exam Questions

2) A knot is the speed unit used in sailing.

One knot is equivalent to 1. 15 miles per hour

(a) Use the information above and the axes provided to draw a conversion graph for knots and miles per hour.



(2)

(b) Use your line to convert 25 miles per hour to knots. Give your answer to the nearest integer.

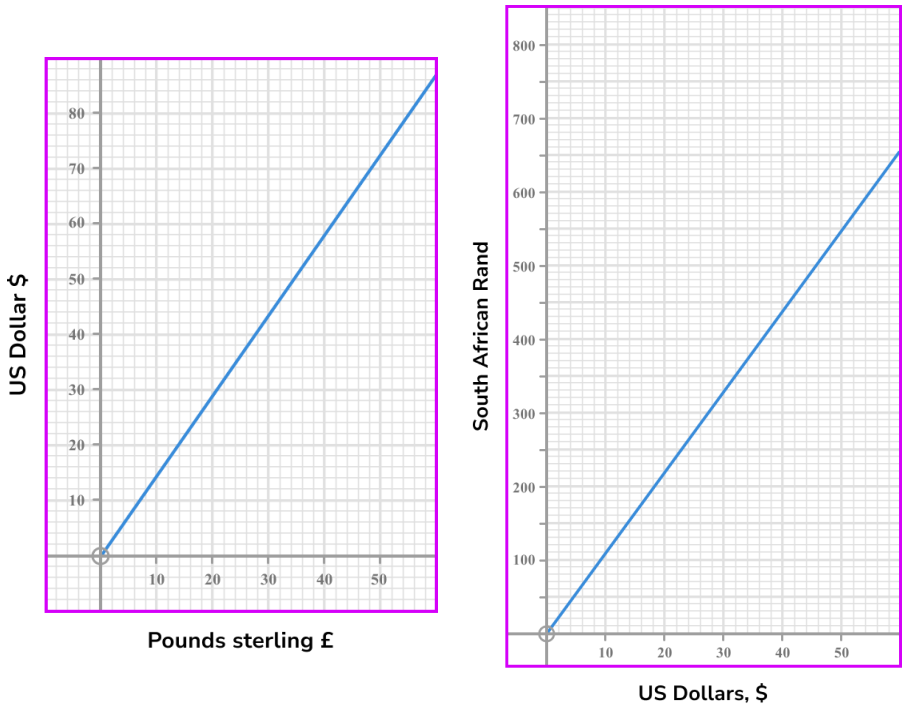
.....

(1)

(3 marks)

Conversion Graphs - Exam Questions

3) The graphs show the conversion between Pound Sterling and US Dollars and US Dollars to South African Rand.



(a) John wishes to buy a camera. He can buy it in the UK for £360 or order it from South Africa for 6000 Rand including postage. Is it cheaper to buy the camera in the UK or order it from South Africa?

.....

(2)

(b) Convert 400 South Rand to Pound Sterling.

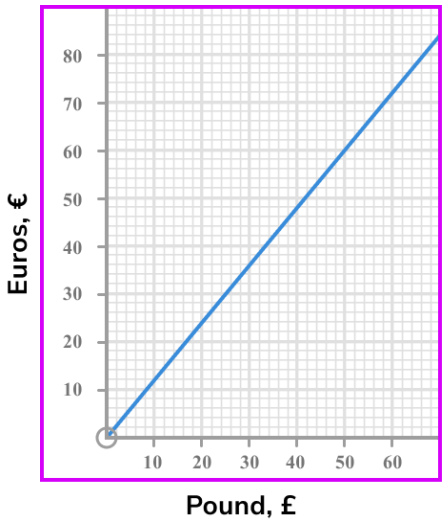
.....

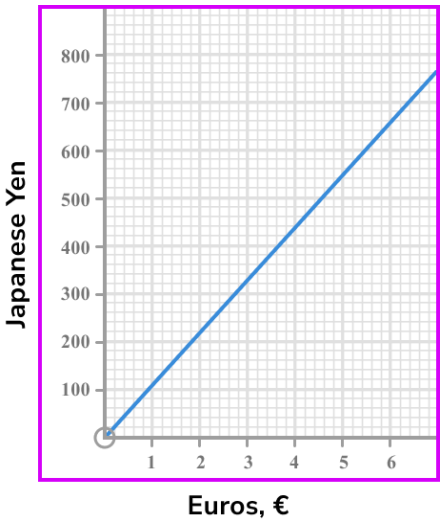
(2)

(5 marks)

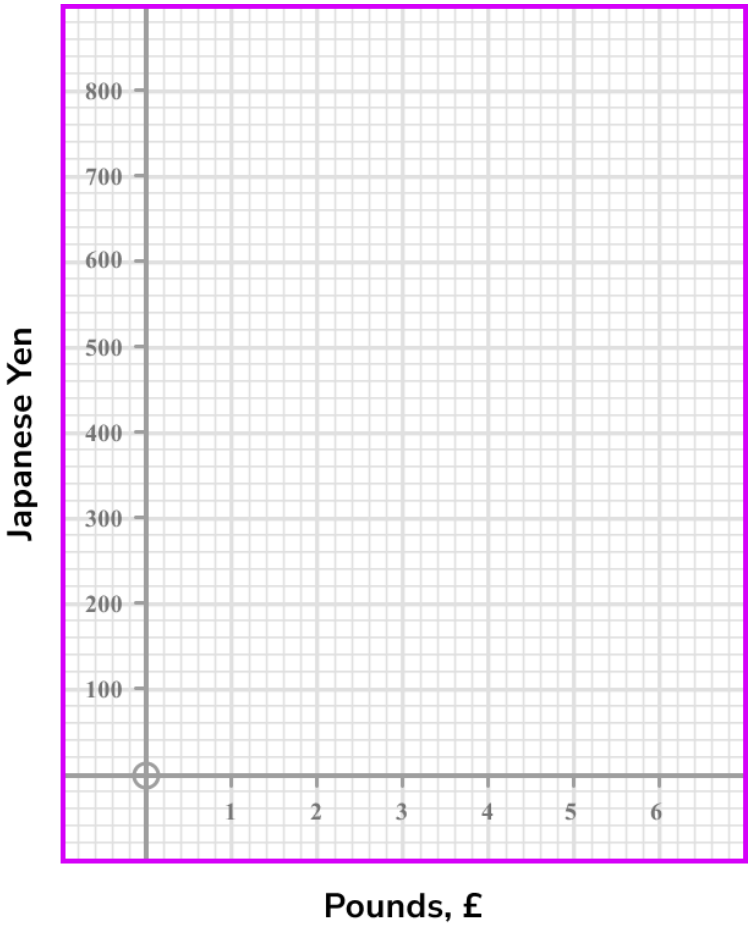
Conversion Graphs - Exam Questions

4) The graphs show the conversion between pounds, £ and euros,€, and the conversion between euros, € and Japanese Yen, ¥.





Use the information to draw a conversion graph for pounds, £ to Japanese Yen, ¥.

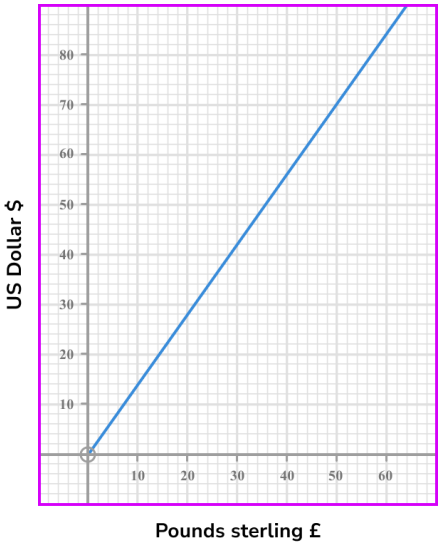


.....

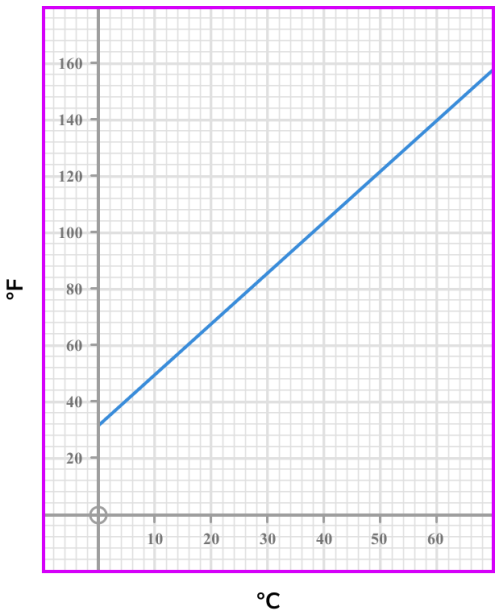
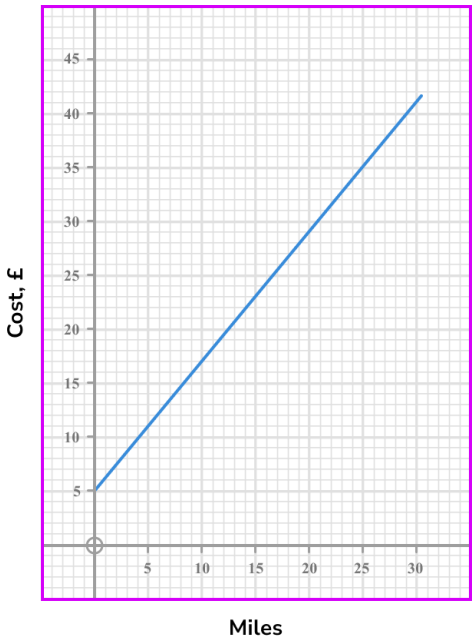
(3)

(4 marks)

Conversion Graphs - Answers

	Question	Answer
	Skill Questions	
Group A	Use the conversion graphs to find the required amounts: **1)** The graph shows the conversion between Pounds, £, and US Dollars, $.  Convert: **a.** £16 to $ **b.** $42 to £ **2)** The graph shows the conversion between centimetres and inches.  Convert: **a.** 3 inches to cm **b.** 16 cm to inches	**1)** **a.** $22 **b.** £30 **2)** **a.** $7.5\ cm$ **b.** $6.3\ inches$

Conversion Graphs - Answers

Group A contd	**3)** The graph shows the conversion between degrees celsius and degrees fahrenheit.  Convert: **a.** $12°C$ to $°F$ **b.** $100°F$ to $°C$	**3)** **a.** $54°F$ **b.** $38°C$
	4) The graph shows the conversion between the distance travelled in a taxi and the cost.  Convert: **a.** 18 miles to £ **b.** £38 to miles	**4)** **a.** £27 **b.** $27\ miles$

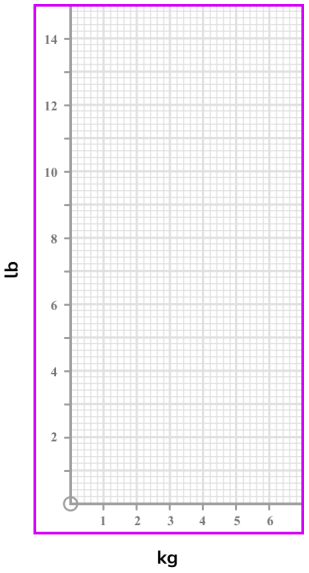
Conversion Graphs - Answers

Group B

Use the information to draw the conversion graphs:

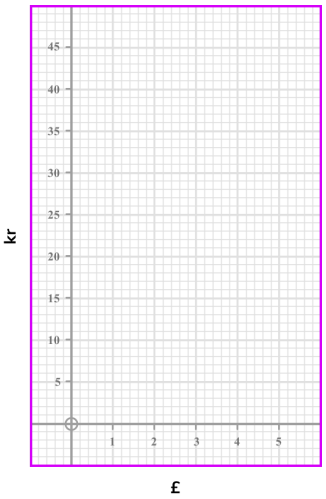
1) The metric unit for mass is the kilogram, kg. An imperial unit for mass is the pound, lb. $1\ kg\ =\ 2.2\ lb$.

Draw a conversion graph on the axes provided.

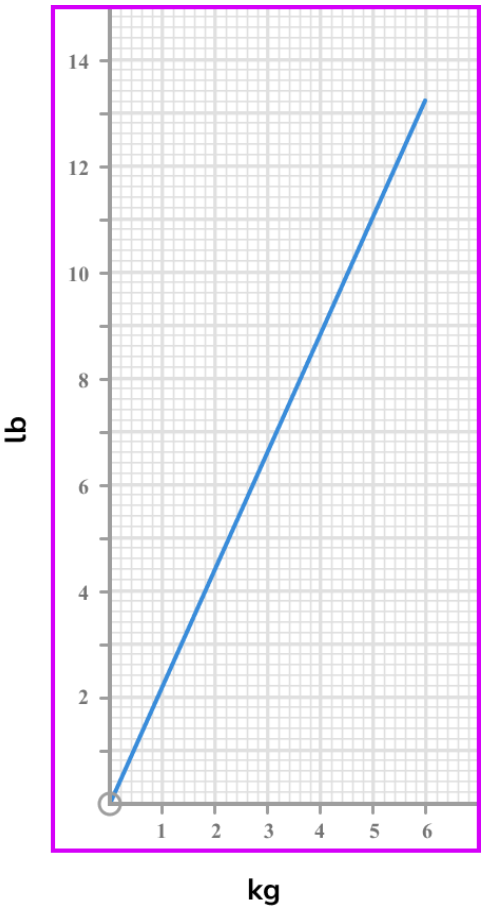


2) The exchange rate for pounds, £, to Danish Krone, kr, is £$1\ =\ 8.8\ kr$.

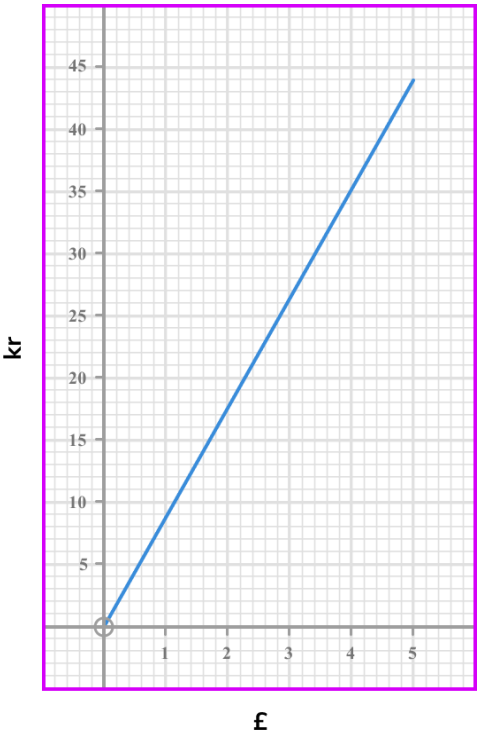
Draw a conversion graph on the axes provided.



1)



2)

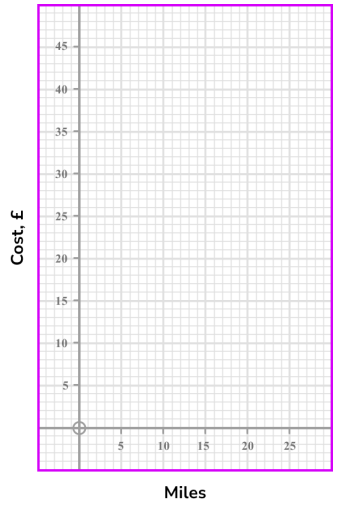


Conversion Graphs - Answers

Group B contd

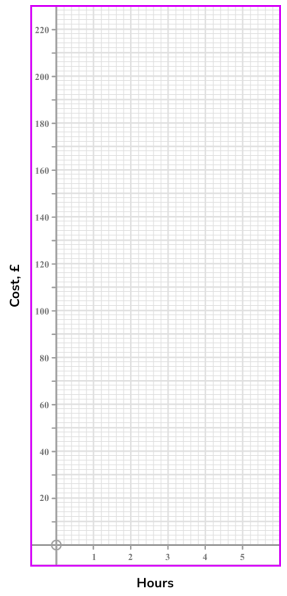
3) A taxi company charges a fixed fee of £8 plus and an extra £1. 40 per mile.

Draw a conversion graph for the distance in miles and the cost in pounds.

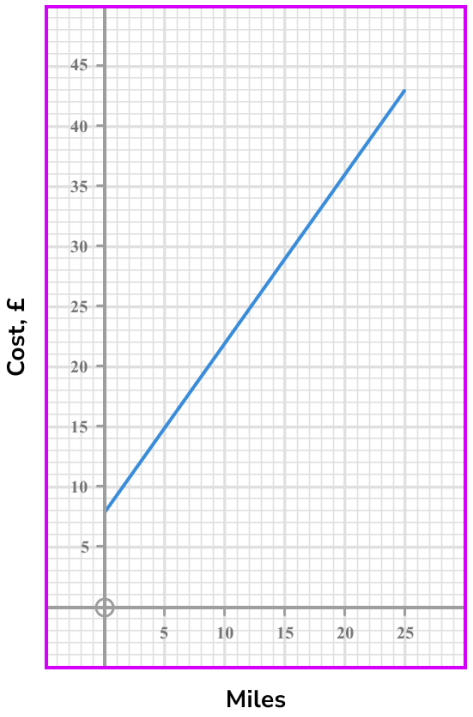


4) A plumber charges a callout fee of £30 plus an extra 60 p per minute.

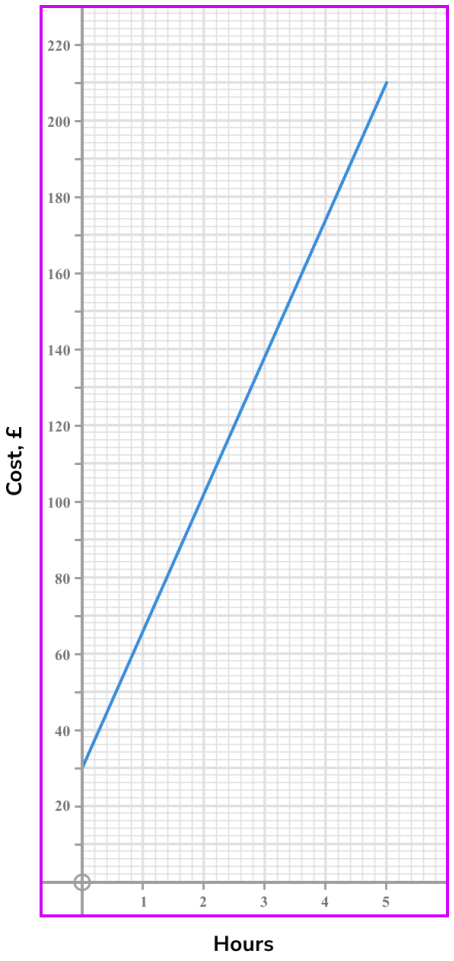
Draw a conversion for the time in hours and the cost of hiring the plumber.



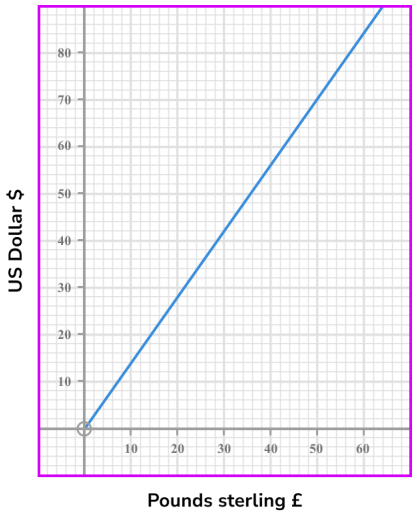
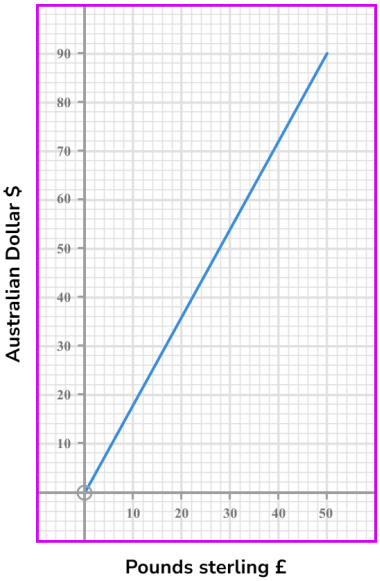
3)



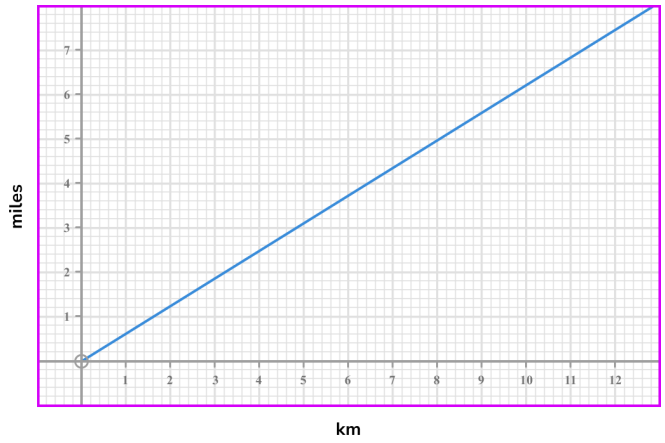
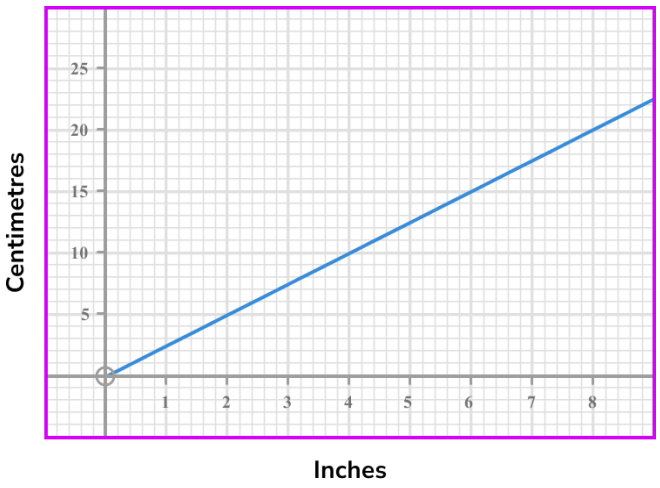
4)



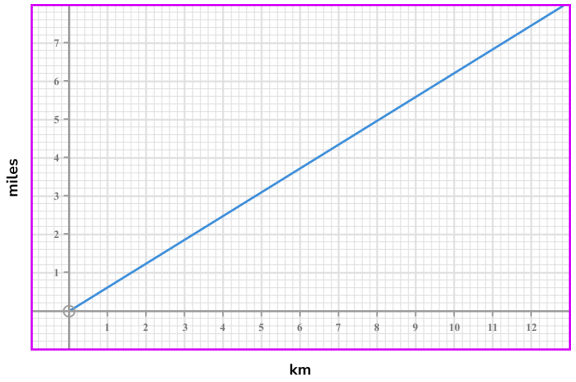
Conversion Graphs - Answers

Group C	Use the conversion graphs to extrapolate the required amounts: **1)** The graph shows the conversion between Pounds, £, and US Dollars, $.  Convert £400 to $ **2)** The graph shows the conversion between Pounds, £, and Australian Dollars, $.  Convert $6800 to £	**1)** $560 **2)** £3800

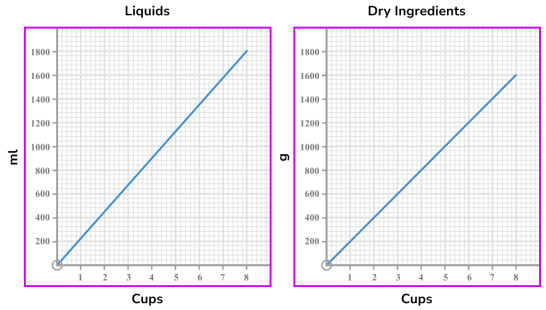
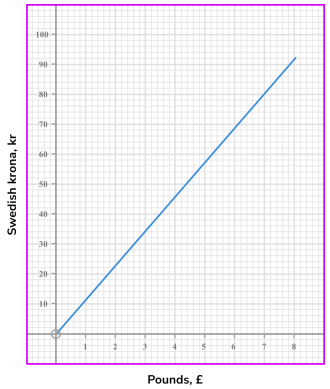
Conversion Graphs - Answers

Group C contd	**3)** The graph shows the conversion between kilometres and miles.  Convert $45\ km$ to miles **4)** The graph shows the conversion between centimetres and inches.  Convert 7.5 metres to inches.	**3)** 28 miles **4)** 300 inches

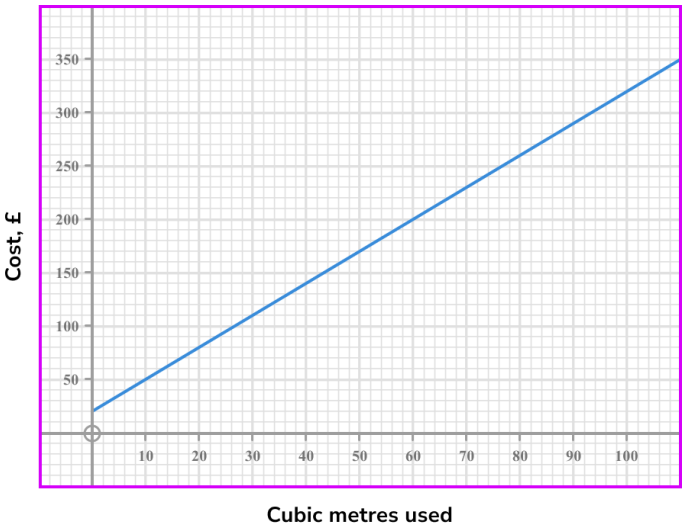
Conversion Graphs - Answers

	Question	Answer
	Applied Questions	
1)	The graph shows the conversion between kilometres and miles.  Trevor is planning a driving holiday across Europe. His speedometer only tells him his speed in miles per hour. The road signs in Europe give the speed limits in kilometres per hour. **a)** One road in Europe has this speed limit sign  Use the conversion graphs to convert this speed to miles per hour.	**a)** $56\ mph$
	b) On his way to Calais, Trevor sees this sign:  Trevor's car is electric and tells him it only has a range of 140 miles remaining. Does he have enough range to make it to Calais, before needing to recharge?	**b)** Yes, 70 miles is approx, $112km$ so 140 miles will be approx $224\ km$.

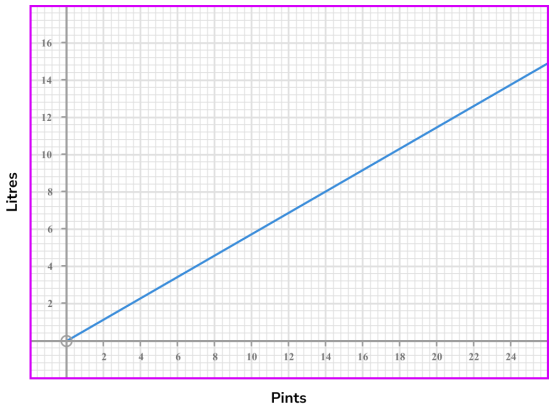
Conversion Graphs - Answers

2)	Sam is baking and has found a recipe from an American website. The recipe uses cups as a measuring unit. The two graphs show the conversion between cups and metric units for liquids and dry ingredients.  **a)** The recipe asks for 4 cups of milk. Convert this to millilitres. **b)** Sam has exactly one quarter of a 1 kg bag of flour. The recipe requires 2 cups of flour. Does Sam have enough?	**a)** 900 ml **b)** No, 250g is less than 2 cups (400g).
3)	The graph shows the conversion between Pounds, £ and Swedish Krona, kr.  **a)** A one way flight from London to Stockholm in Sweden costs £70 if purchased from the airline company. The return flight from Stockholm when bought in Sweden costs 700 Krona. Sarah decides to book both flights in the UK through a discount website and is charged £125. Approximately how much money does she save? Give your answer in pounds.	**a)** Approximately £6 saved.

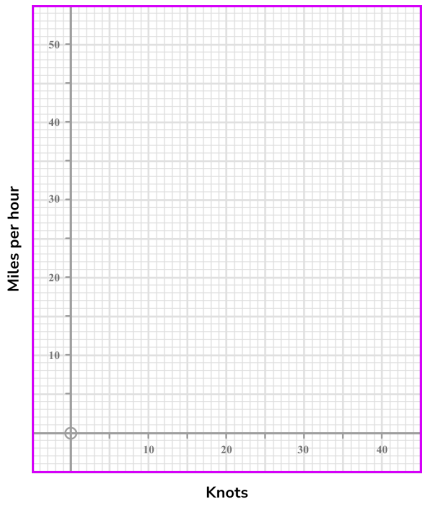
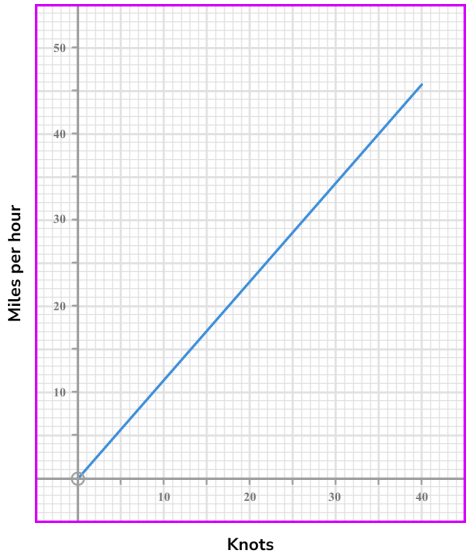
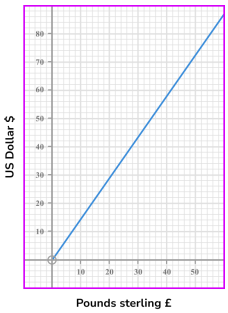
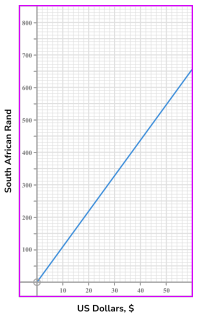
Conversion Graphs - Answers

	b) Sarah wants to exchange some pounds to Swedish Krona. The bank only has 100 Krona notes available. How many 100 Krona notes can Sarah get for £250?	**b)** 28
4)	A water company charges a fixed monthly cost and then an additional fee per cubic metre or water used. The graph shows the conversion between the amount of water used and the cost.  **a)** Find the cost of using 70 cubic metres of water. **b)** State the fixed charge and find the additional fee per cubic metre.	**a)** £230 **b)** Fixed charge is £20 Additional charge is £3 per cubic metre

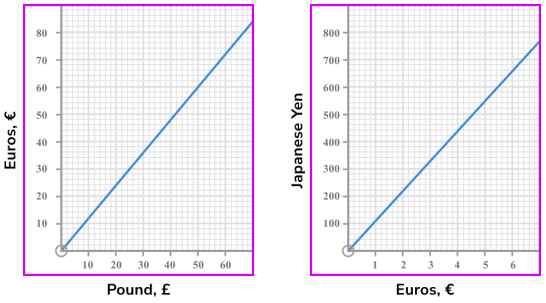
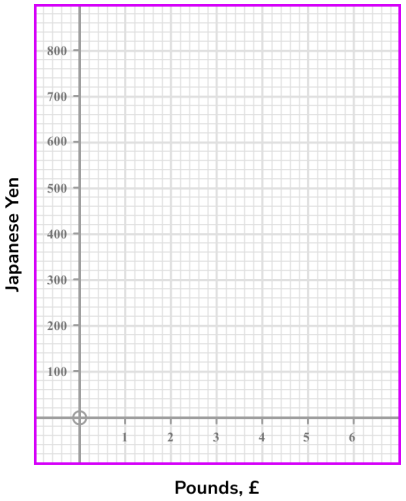
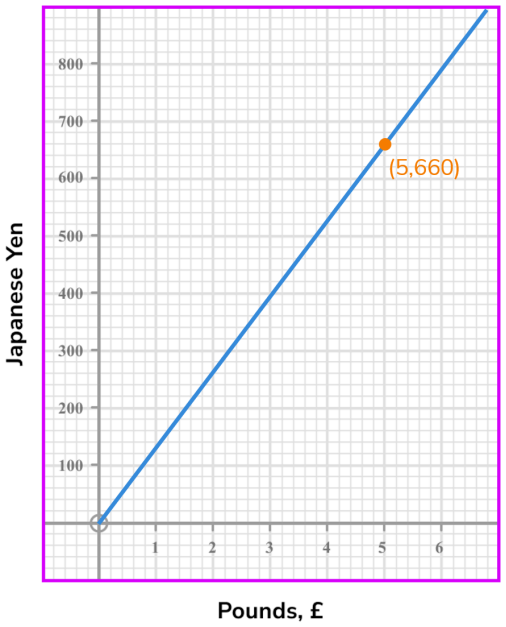
Conversion Graphs - Mark Scheme

	Question	Answer	
	Exam Questions		
1)	The graph shows the conversion between pints and litres.  		
(a)	Use the graph to estimate the number of litres equivalent to 14 pints.	(a) 8	(1)
(b)	Use the graph to estimate the number of pints equivalent to 12 litres.	(b) 21	(1)
(c)	A bath can hold 70 litres of water. Estimate the number of pints equivalent to 70 litres.	(c) Using an appropriate factor of 70 litres and converting correctly, eg 10 litres = 17.6 pints Answer between 120 and 125 inclusive	(1) (1)

Conversion Graphs - Mark Scheme

2)	A knot is the speed unit used in sailing. One knot is equivalent to 1. 15 miles per hour		
(a)	Use the information above and the axes provided to draw a conversion graph for knots and miles per hour. 	**(a)**  A correct point plotted, eg (10, 11. 5) Correct line	**(1)** **(1)**
(b)	Use your line to convert 25 miles per hour to knots. Give your answer to the nearest integer.	**(b)** 22 **or** 23 knots	**(1)**
3)	The graphs show the conversion between Pound Sterling and US Dollars and US Dollars to South African Rand.  		
(a)	John wishes to buy a camera. He can buy it in the UK for £360 or order it from South Africa for 6000 Rand including postage. Is it cheaper to buy the camera in the UK or order it from South Africa?	**(a)** Converts £360 to $520 Converts 6000 Rand to $500 **or** converts $520 to 5700 Rand States that camera is cheaper if ordered from the UK	**(1)** **(1)** **(1)**

Conversion Graphs - Mark Scheme

(b)	Convert 400 South Rand to Pound Sterling.	**(b)** Converts 400 Rand to \$35 – \$37 Converts their amount of \$ to £22 – £25	**(1)** **(1)**
4)	The graphs show the conversion between pounds, £ and euros, €, and the conversion between euros, € and Japanese Yen, ¥.  Use the information to draw a conversion graph for pounds, £ to Japanese Yen, ¥. 	 Finds a correct conversion for pounds and euros, eg £50 = €60 Finds a correct conversion for euros and yen, eg €6 = ¥600 Finds a correct conversion between pounds and yen , eg £5 = ¥660 Correct line	**(1)** **(1)** **(1)** **(1)**