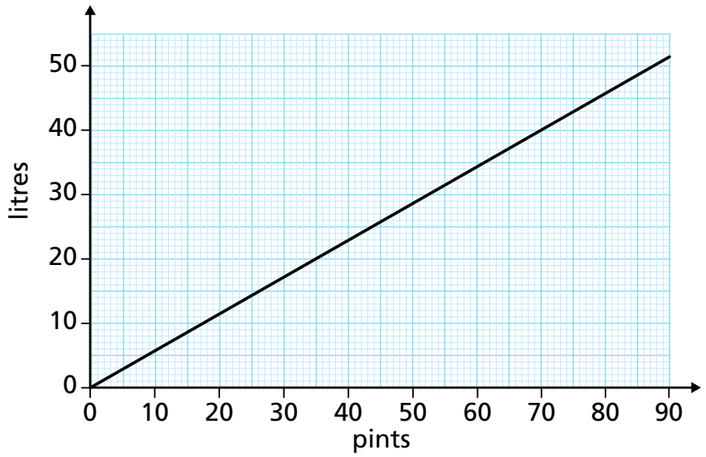
Direct proportion and conversion graphs R

1 This is a conversion graph between pints and litres.



a) Use the graph to make approximate conversions.

i) 40 pints = ☐ litres

ii) 40 litres = ☐ pints

iii) 20 litres = ☐ pints

iv) 35 pints = ☐ litres

b) Jack and Dora want to convert 100 pints to litres.
Complete their methods.

Jack's method

100 pints = 70 pints + 30 pints

70 pints = ☐ litres

30 pints = ☐ litres

So 100 pints = ☐ litres

Dora's method

100 pints = 2 × 50 pints

50 pints = ☐ litres

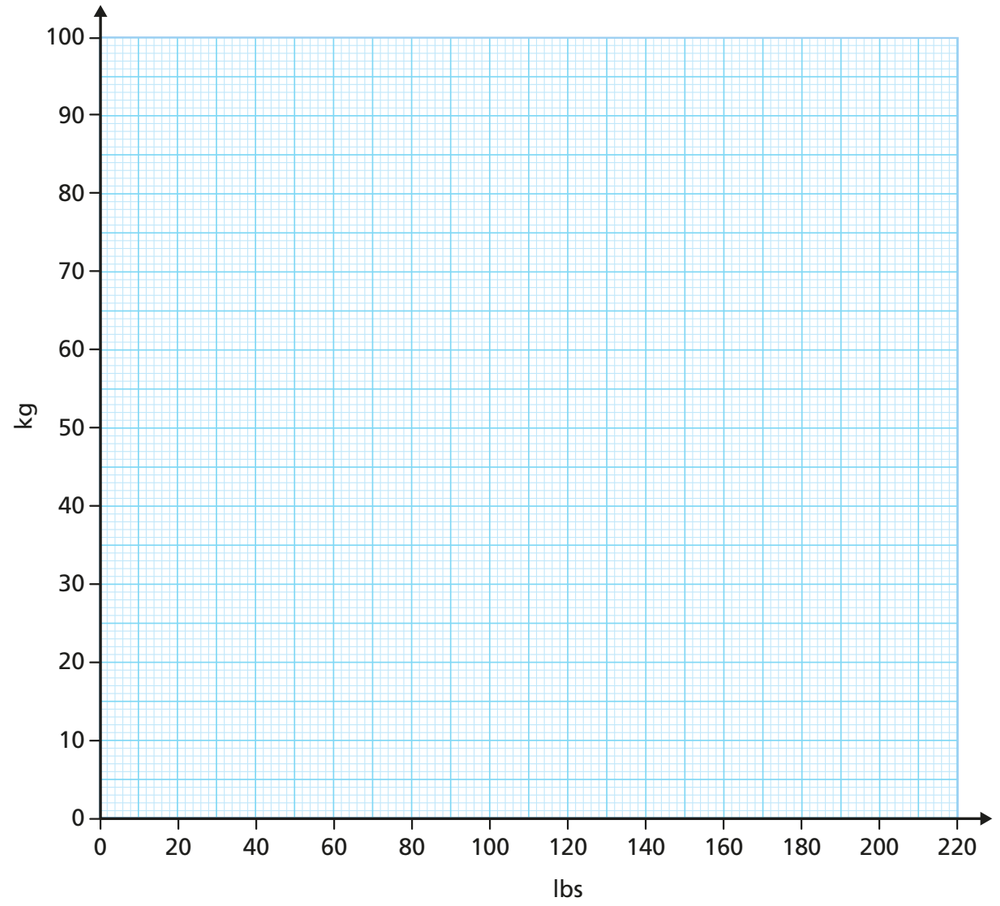
So 100 pints = ☐ litres

c) Choose one of these methods to convert 100 litres into pints.

100 litres = ☐ pints

2 20 kg is approximately equal to 44 lbs.

a) Use this information to draw a conversion graph.



b) Use your graph to complete the approximate conversions.

i) 82 kg = ☐ lbs

ii) 75 lbs = ☐ kg

c) Use your answers to part b) to complete the approximate conversions.

i) 8,200 kg = ☐ lbs

ii) 375 lbs = ☐ kg

d) The mass of an elephant is 5,400 kg.

What is the mass of the elephant in pounds?

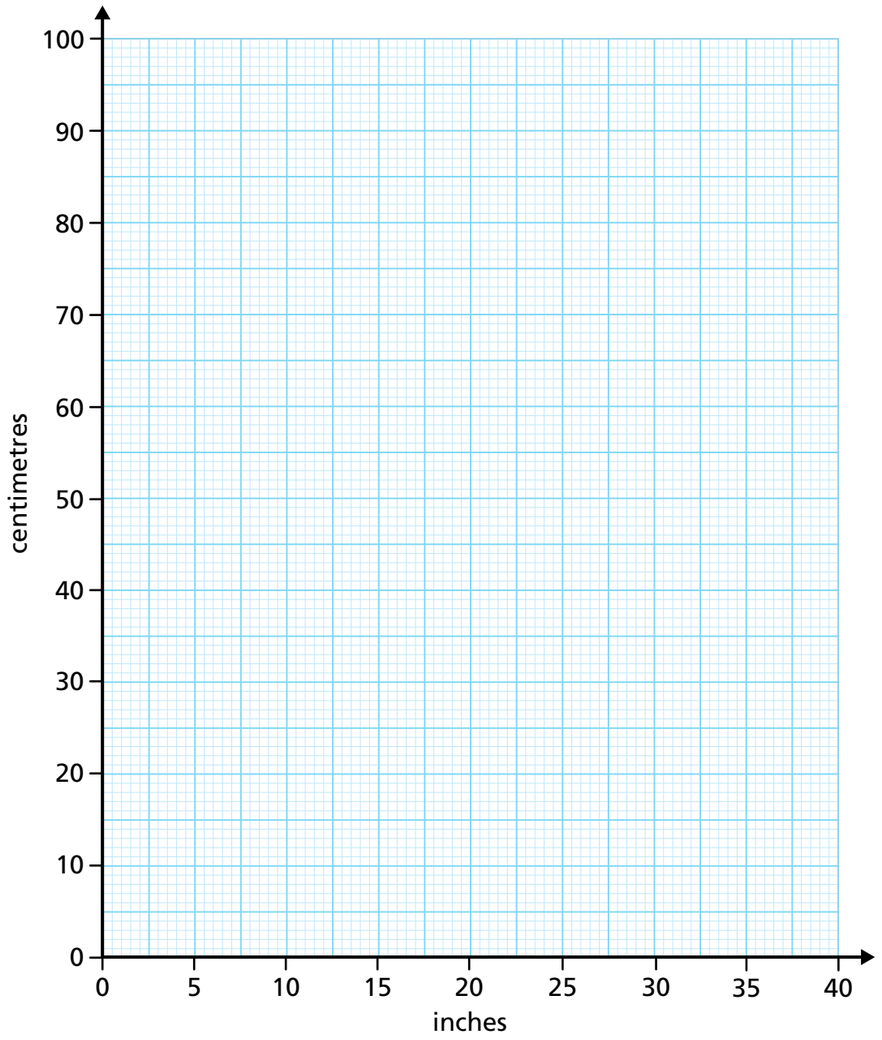
☐ lbs

3 **a)** One inch is approximately 2.5 cm.

Explain why each of these points can be used to plot a conversion graph for inches to centimetres.

(0, 0)	(1, 2.5)	(10, 25)	(20, 50)

b) Plot the points and draw the conversion graph.



c) Explain why the graph shows a direct proportion relationship.

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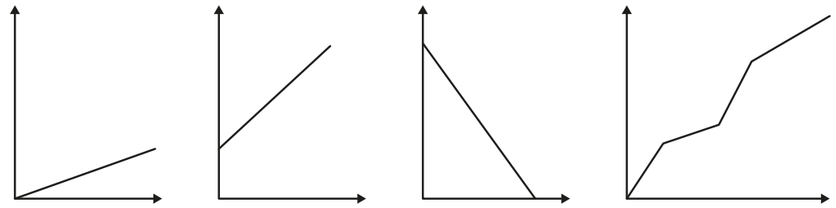
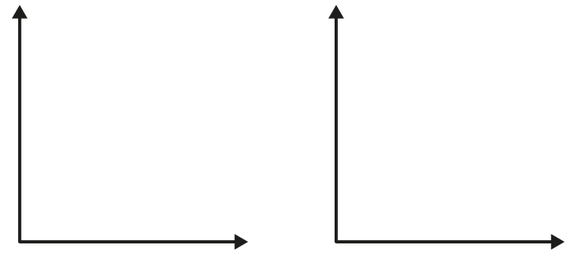
4 **a)** Which graph shows a direct proportion relationship?
Tick your answer.



Why don't the other graphs show direct proportion?

b) Draw two more graphs that show direct proportion.



5 **a)** Which table shows a direct proportion relationship? Tick your answer.

Time (hrs)	2	4	10
Distance (km)	18	36	90

Distance (km)	5	10	15
Cost (£)	8	13	18

Explain your answer.

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b) Complete the table to show a direct proportion relationship.

x	5	15		0.5		a	
y	12		360		40		b