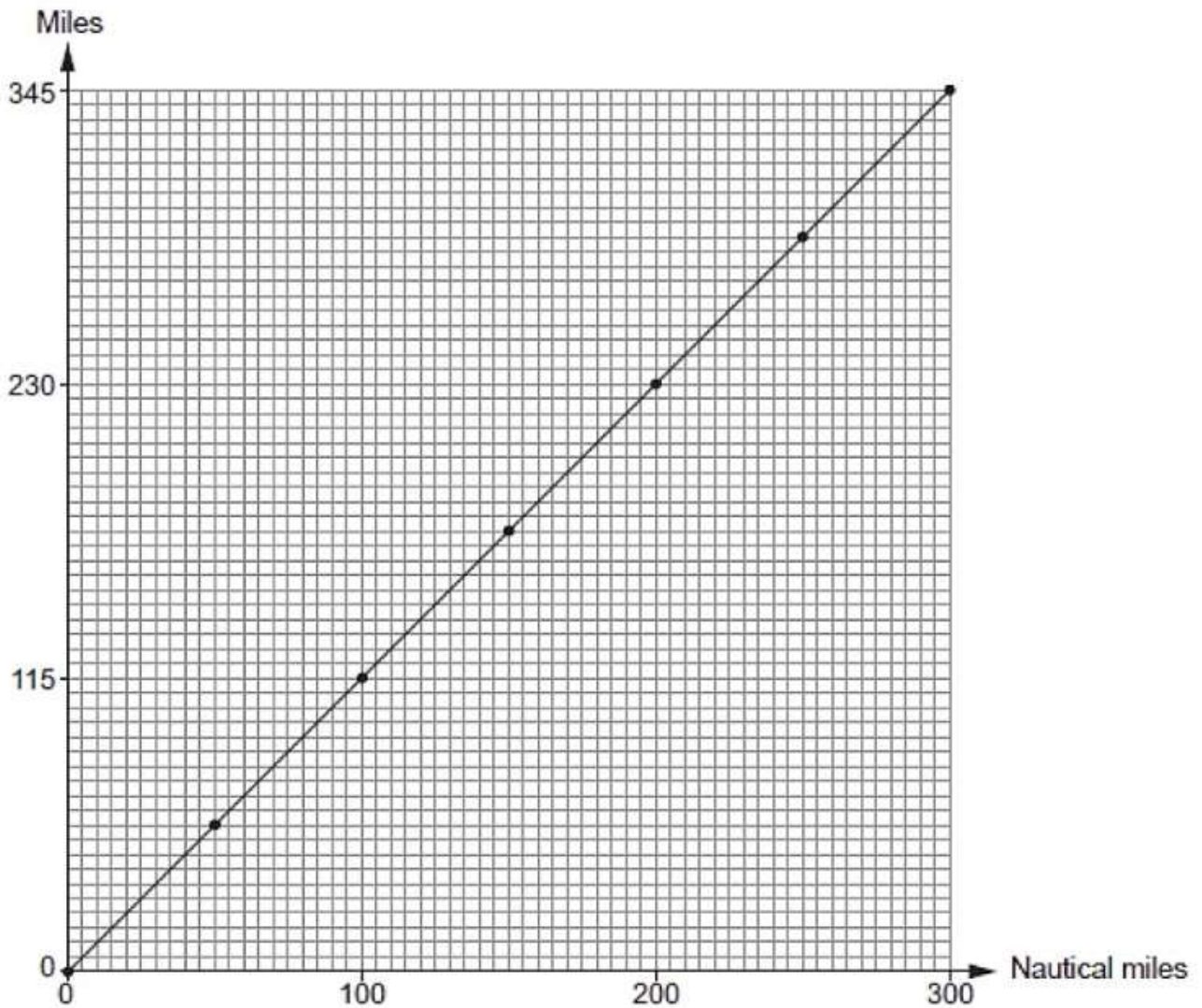Intermediate Numeracy Summer 2018 P1 Q1

Maxim is doing a project on shipping.
He draws and uses his own conversion graph to convert between nautical miles and miles.

(a) What is 50 nautical miles converted into miles?
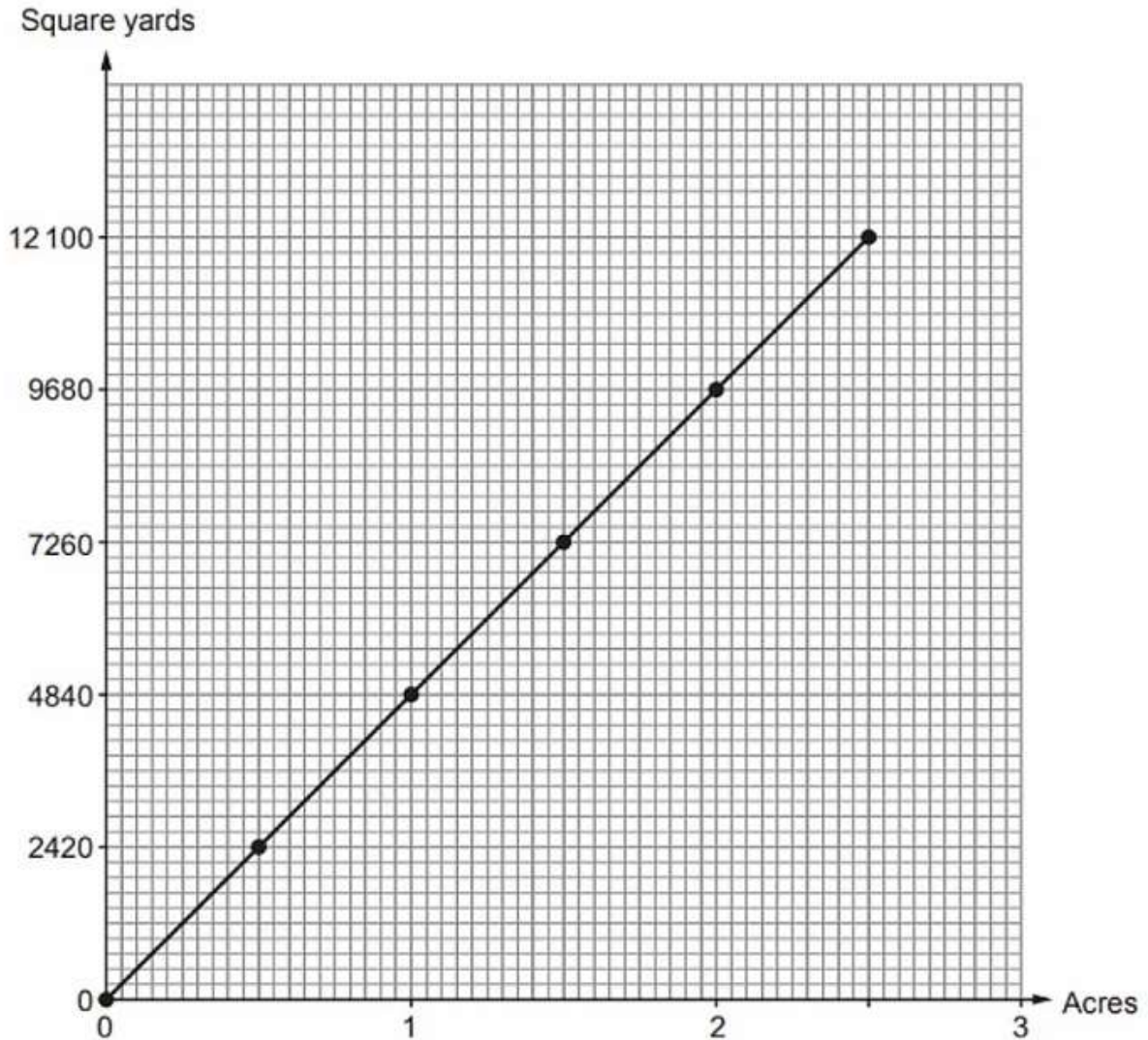Circle your answer.   [1]

55   56·5   57·5   58·5   59·5

(b) Complete the following statement.

800 nautical miles is equal to .... miles.   [2]

_____

Marcus is a farmer.
He has his own conversion graph to change between acres and square yards.
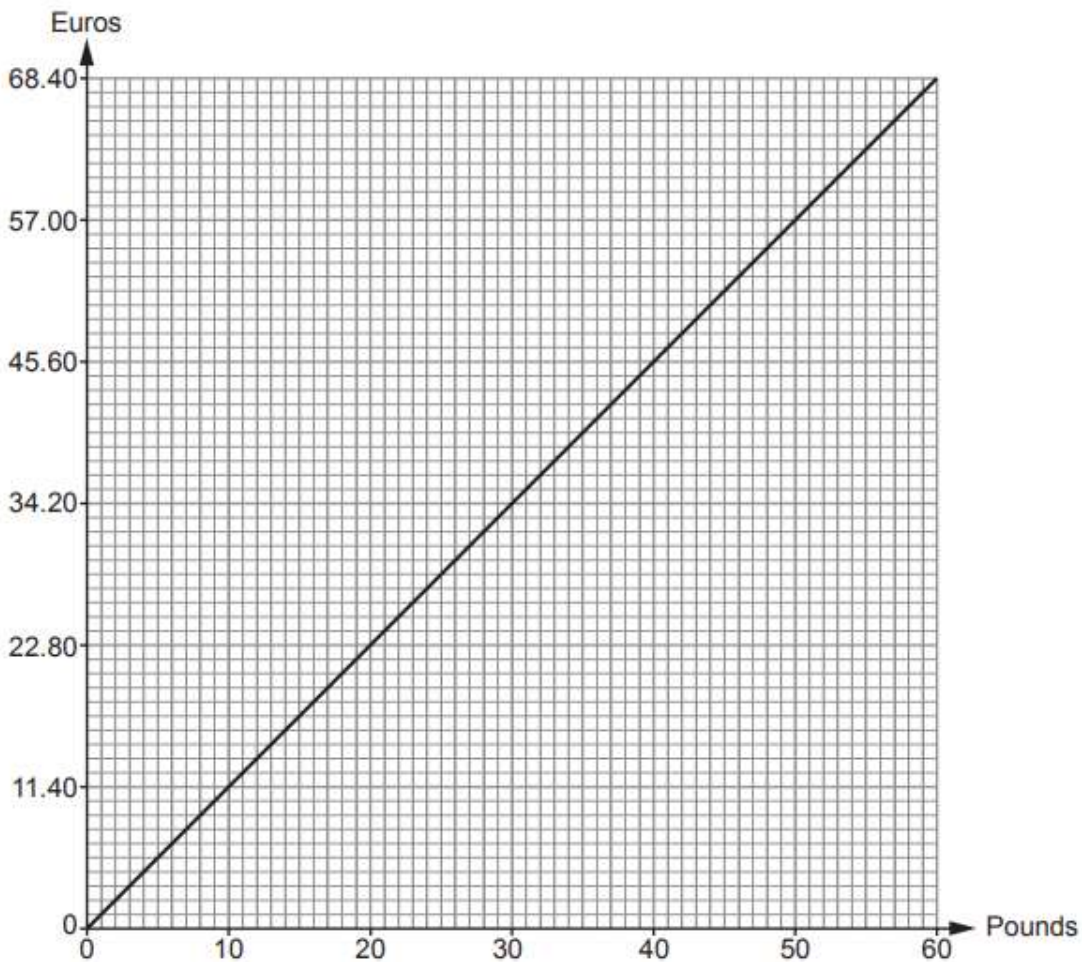

Complete each of the following statements.

(a)   3 acres is equal to .... square yards.   [1]

....

(b)   5·5 acres is equal to .... square yards.   [2]

Intermediate Numeracy Summer 2019 P1 Q3c

Before going on holiday, Aled made a conversion graph to help him understand prices in euros.

Use Aled's conversion graph to answer the following questions.

(i)   A camera costs £90.
      How much is this in euros?   [2]

(ii) A meal costs £25.
      How much is this in euros?   [2]

_____

Intermediate Numeracy Summer 2019 P2 Q3b

1 Australian dollar (AUD) is worth £0.61.

How much is £320 worth in Australian dollars?
Give your answer to the nearest Australian dollar.   [2]

_____

Intermediate Maths Nov 2017 P1 Q3b

(b)   How many cubic centimetres (cm^3) are there in 2·5 litres?   [1]

Intermediate Numeracy Nov 2016 P2 Q4

Ewan is going on holiday to India.
He has saved £450 to exchange for Indian rupees.

(a)   The exchange rate on the internet last week was £1 = 99.40 rupees.
      Had Ewan been going on holiday last week, how many rupees could he have bought?
      [2]

(b)   Ewan exchanges his money on arrival in India.
      The exchange rate is now £1 = 99.72 rupees.

      The exchange bureau only has 500 rupee notes.
      Ewan wants to buy as many rupees as possible with his £450 savings.

      How much of his £450 will Ewan spend buying rupees?
      Give your answer correct to the nearest penny.
      You must show all your working.
      [4]

_____

Intermediate Numeracy Summer 2018 P2 Q5d

(d)   Mena goes on holiday to France.
      She takes 590 euros with her on holiday.

      Mena only spends 40% of her euros.

      When she returns from holiday, she exchanges her remaining euros for pounds.
      The exchange rate is £1 = 1.18 euros.
      How many pounds does Mena receive?
      [4]

_____

Intermediate Numeracy Summer 2017 P2 Q6aii

Gustav is making some scones for his sister's birthday party.

> **Recipe to make 12 scones**
>
> 450g self raising flour
> 2 teaspoons of baking powder
> 75g butter
> 50g caster sugar
> 2 eggs
> 225ml milk
>
> **Bake at 428°F for 10 to 15 minutes**

(ii) In the recipe, the temperature of the oven is given in degrees Fahrenheit, F.
      The temperature gauge on Gustav's oven shows degrees Celsius, C.

      The formula below is used to convert Fahrenheit into Celsius.
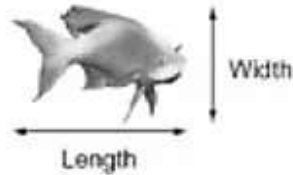
      $$C = \frac{5F - 160}{9}$$

      At what temperature should Gustav bake the scones?
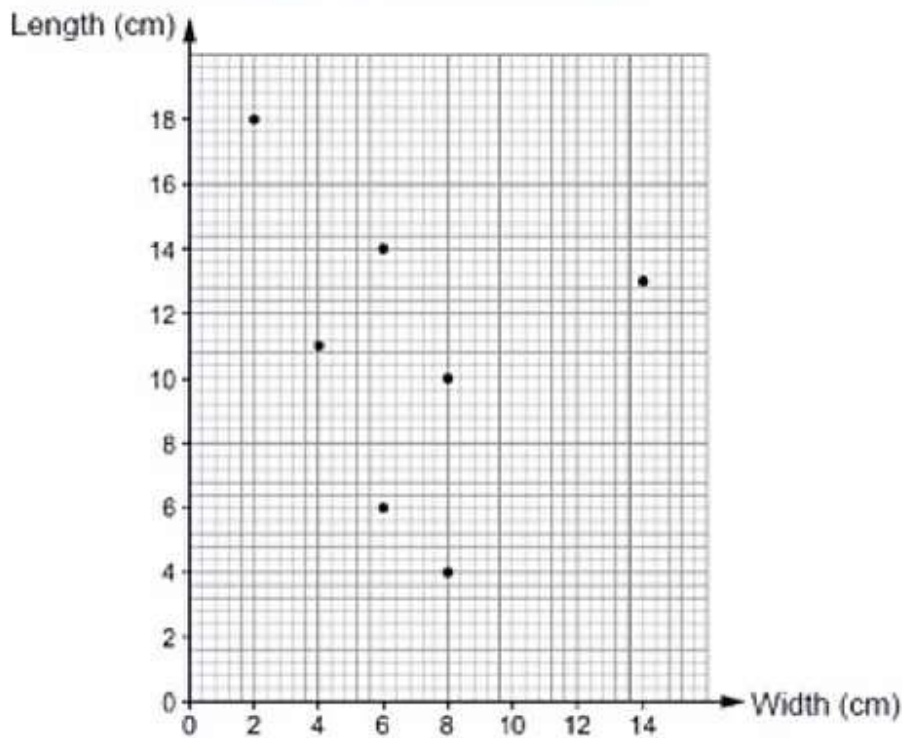   Give you answer in degrees Celsius.
      [2]

Intermediate Numeracy Sam 1 P1 Q6

Nerys takes her 3 cousins, Ben, Elwyn and Denny, to an aquarium in North Wales.

(a)   Denny records estimates for the length and width of some of the fish he sees at the aquarium.

He draws a scatter diagram as shown below.

(i)   One of the fish is 4 cm wide.
Write down its length.   [1]

(ii)   Another fish is 14 cm long.
Write down its width.   [1]

(iii)   The width of a yellow fish is exactly the same as its length.
Indicate on the scatter diagram which point you think represents the yellow fish.   [1]

(b)

Remember:

14 pounds = 1 stone
1 kg = 2·2 pounds

Nerys sees a very big fish.

She is told it weighs 15 kg.

Nerys herself weighs 9 stone 4 pounds.
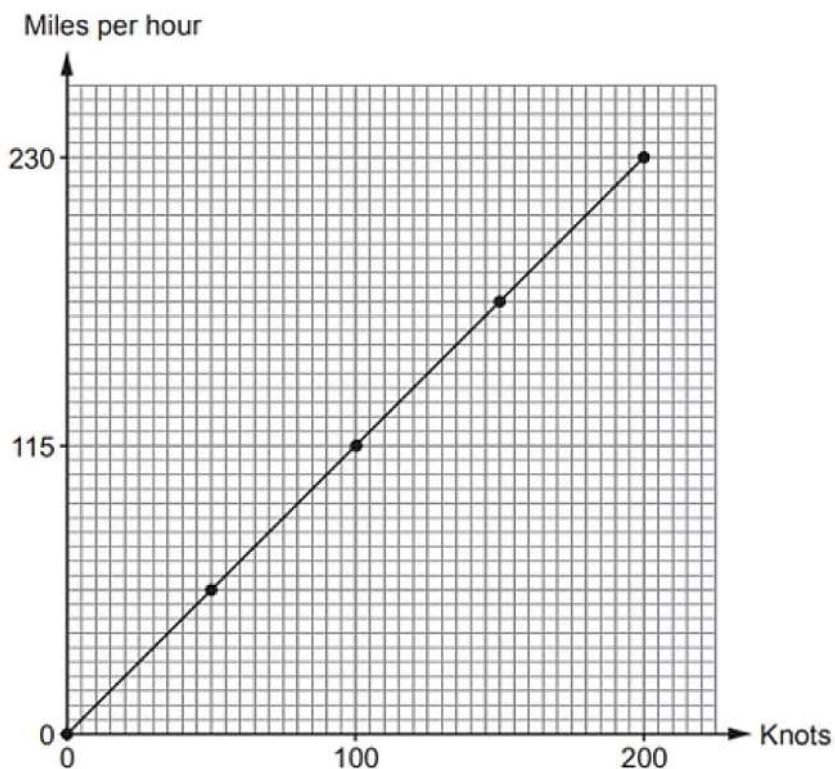
Complete the following sentence.   [6]

Nerys weighs approximately .... times as much as the fish.

___

Intermediate Numeracy Summer 2017 P2 Q7

Alun has made his own conversion graph to change knots to miles per hour.

Miles per hour

230

115

0

0   100   200   Knots

(a)   Use Alun's conversion graph to write 150 knots in miles per hour.   [1]

(b)   Nikita thinks Alun's conversion graph may be inaccurate.

Nikita knows that 1000 knots is 1150.779 miles per hour, correct to 3 decimal places.

Convert 20 knots to miles per hour
*   using Alun's conversion graph, and then
*   using Nikita's values.

Calculate the difference, in miles per hour, between your answers.
Give your answer correct to 2 decimal places.
You must show all your working.   [4]

_____

Intermediate Numeracy Nov 2017 P2 Q7c

(c)   The currency widely used in Patagonia is the Argentine peso.

Alvaro sells alpaca fleeces from Patagonia.
His fleeces are priced in Argentine pesos.
Tom lives in Wales and buys fleeces from Alvaro.
Tom pays for the fleeces in pounds.

Tom's purchases are shown in the table below.

	Number of fleeces bought	Price per fleece, in Argentine pesos	Exchange rate
January 2015	80	19.20	£1 = 15.47 Argentine pesos
March 2016	20	22.30	£1 = 15.21 Argentine pesos
April 2017	100	24.50	£1 = 14.93 Argentine pesos

For each of Tom's 3 purchases he paid correct to the nearest penny.

How much did Tom pay for these 200 fleeces, in pounds?
Give your answer correct to the nearest penny.
You must show all your working.   [4]

_____

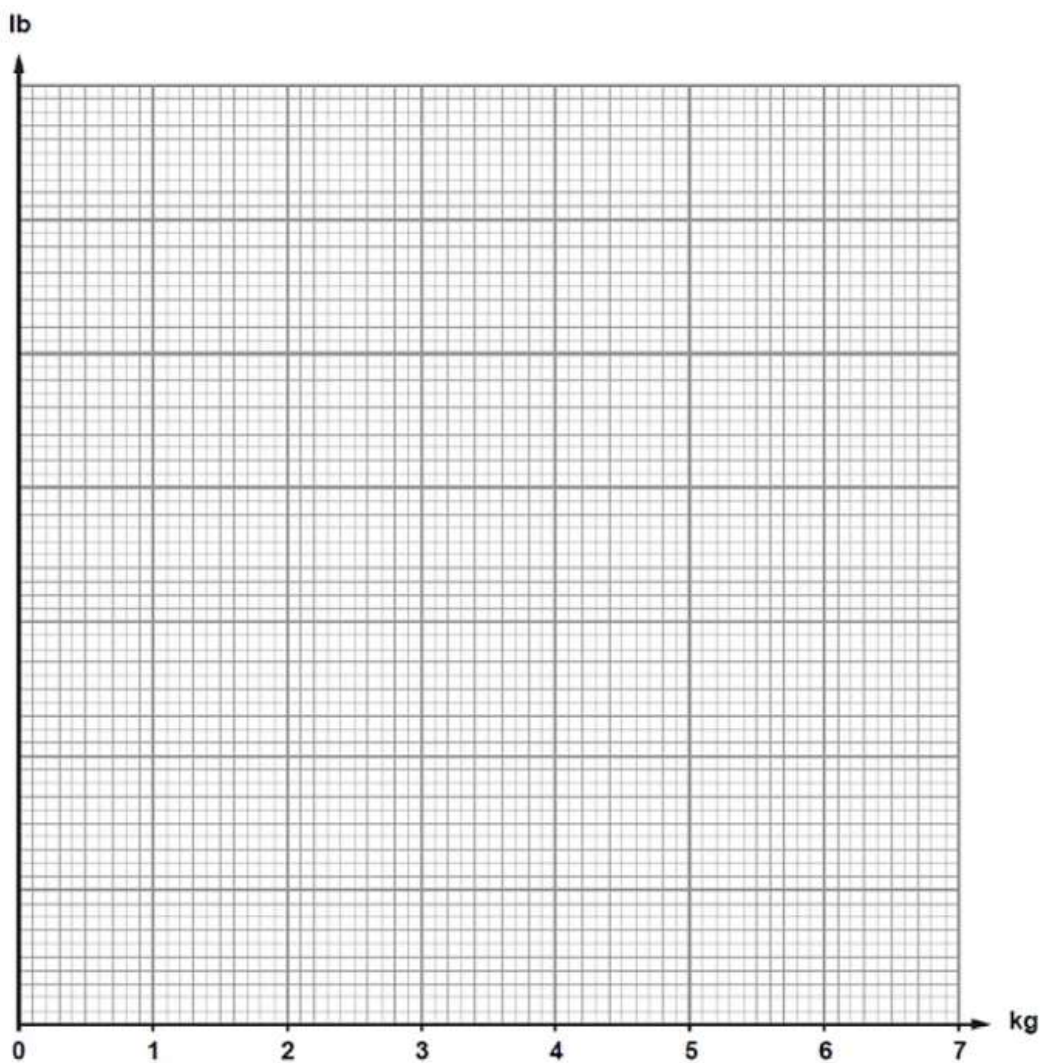Intermediate Numeracy Sam 1 P2 Q7

The following two pieces of information, given in both kilograms (kg) and pounds (lb), were seen in a cookery magazine.

Use 5 kg (11 lb) of apples. Wash and peel them.

Use 2 lb (0·9 kg) of sugar. Warm the sugar before use.

(a)   Use the information to draw a conversion graph between kilograms and pounds.   [3]

lb

kg

0   1   2   3   4   5   6   7

(b)   A person weighs 10 stone. (1 stone = 14 lbs)
Use your graph to estimate the weight of this person in kilograms.
Remember to show the method you have used.   [3]

_____

Intermediate Numeracy Sample 2 P2 Q9

2. Lech went on holiday from his home in Wales to Poland.
   Before going, he went into his local money exchange shop to buy some Polish zloty.

   Lech only had £250 to spend on buying zloty.
   He wanted to buy as many zloty as possible.
   Unfortunately, the money exchange shop only had 50 zloty notes.
   The exchange rate to buy zloty was £1 = 4.37 zloty.

(a)   *You will be assessed on the quality of your organisation, communication and accuracy in writing in this part of the question.*

       How much did Lech pay for the zloty?

                                                                                         [5 + OCW 2]

(b)   While in Poland, Lech spent 340.40 zloty.
       On returning to Wales from his holiday, Lech changed his zloty back to pounds.
       Unfortunately, the money exchange shop would only buy back a whole number of zloty.
       The exchange rate used for changing zloty back to pounds was
       £1 = 4.43 zloty.
       Calculate how much Lech received back from the money exchange shop.
       Give your answer correct to the nearest penny.

                                                                                         [3]

_____

Intermediate Numeracy Nov 2017 P2 Q7

(a)   Bronwen and Alvaro decide to keep some alpacas on their farm in Patagonia.

       Alvaro knows it is possible to keep between 4 and 6 alpacas on each acre of suitable farmland.
       They have 13 hectares of farmland that they want to use to keep the alpacas.
       Bronwen knows that 1 acre is 4046·86 m^2 and that 10 000 m^2 = 1 hectare.

       Use this information to advise Bronwen and Alvaro on the number of alpacas they could keep on their farmland.
       State any assumption that you make.
       You must show all your working.   [6]

_____

Intermediate Numeracy Nov 2018 P2 Q8

Amrit is planning to go to Switzerland.
The table below shows the rates for exchanging British pounds (£) and Swiss francs (CHF) at a money exchange shop.

Buy Swiss francs (CHF)	£1 buys 1.24 CHF
Sell Swiss francs (CHF)	1.28 CHF buys £1

The exchange shop:
- has all possible British notes and coins,
- sells and buys CHF **notes only** (no coins are available or accepted),
- has 10 CHF, 20 CHF, 50 CHF, 100 CHF, 200 CHF and 1000 CHF notes.

Amrit has £480 to buy Swiss francs.
Calculate
- the maximum number of Swiss francs that Amrit can buy, and
- how much, to the nearest penny, this will cost him.

You must show all your working.   [5]

___

Intermediate Numeracy Nov 2018 P2 Q9b

(b)   Which of the following is equal to $0.2\,m^3$?
    Circle your answer.   [1]

$20\,cm^3$ $200\,cm^3$ $2000\,cm^3$ $200\,000\,cm^3$ $2\,000\,000\,cm^3$

___

Intermediate Numeracy Nov 2018 P1 Q9bi

(b)   (i)   Jade has bought a new suitcase that can hold 65 litres.
     What is 65 litres in cm^3?
     Circle your answer.   [1]

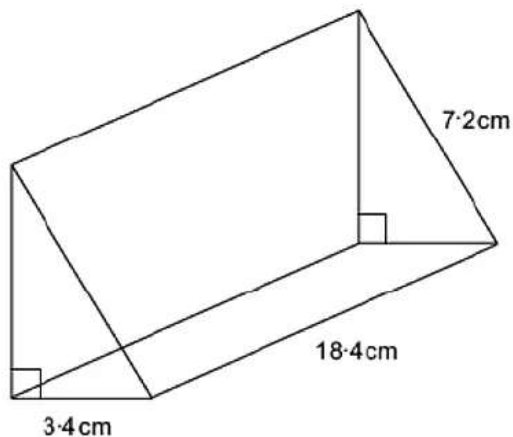$65\,cm^3$ $650\,cm^3$ $6\,500\,cm^3$ $65\,000\,cm^3$ $650\,000\,cm^3$

___

Intermediate Numeracy Sam 1 P2_Q10a

Pack4 is a company that makes cardboard boxes.

(a)   One of their boxes, in the shape of a triangular prism, is shown below.

7·2cm

18·4cm

3·4cm

Diagram not drawn to scale

A customer wants a box with a volume of 0·2 litres.

(i)   State by how much the volume is greater or less than 0·2 litres, giving
          your answer in cm^3 correct to 2 significant figures.   [6]

(ii)   Explain why this may not be a suitable box for the customer.   [1]

_____