Write your name here

Surname	Other names

Pearson Edexcel GCSE

Centre Number	Candidate Number

Mathematics B

Unit 3: Number, Algebra, Geometry 2 (Calculator)

Foundation Tier

Tuesday 10 November 2015 – Morning
Time: 1 hour 30 minutes

Paper Reference
5MB3F/01

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- **Calculators may be used.**
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Information

- The total mark for this paper is 80
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed.

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

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P 4 5 9 0 7 A 0 1 2 8

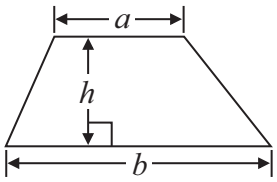
PEARSON

GCSE Mathematics 2MB01

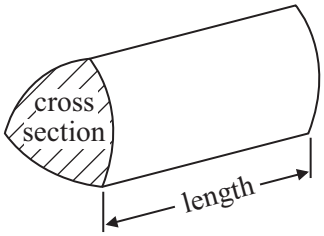
Formulae: Foundation Tier

You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

Area of trapezium = $\frac{1}{2}(a + b)h$



Volume of prism = area of cross section × length



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1 (a) Write $\frac{1}{5}$ as a decimal.

.....

(1)

(b) Write 0.37 as a fraction.

.....

(1)

(c) Work out $1 \div 0.25$

.....

(1)

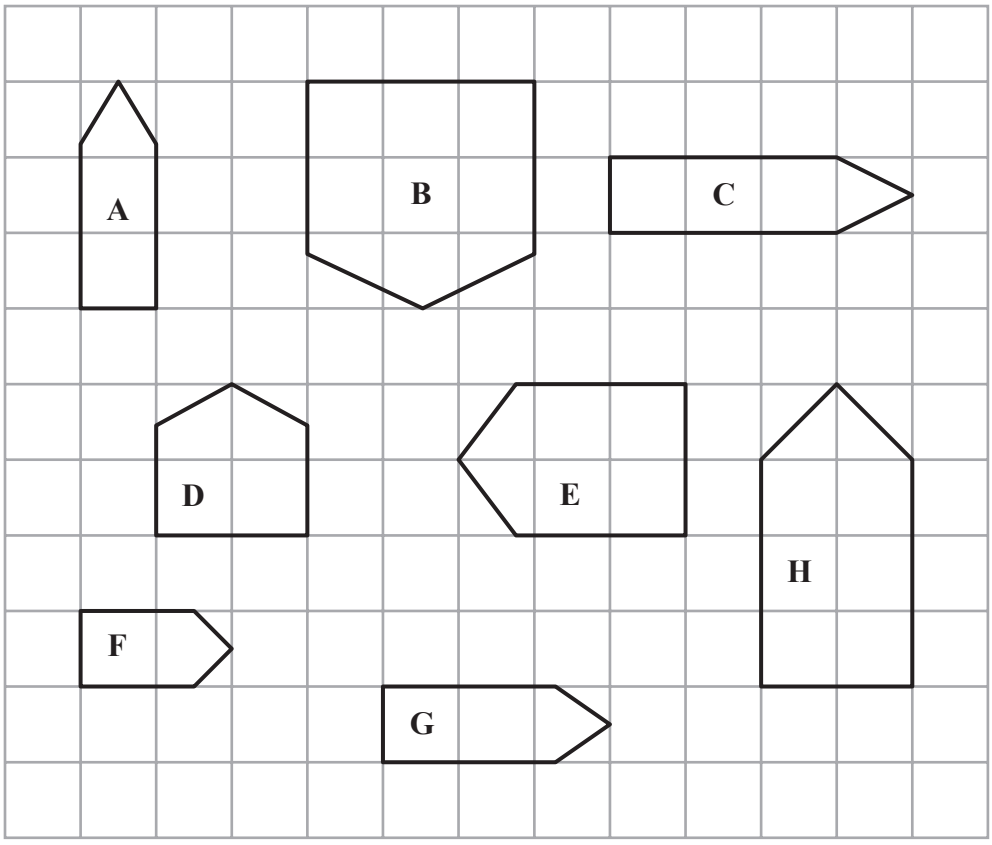
(d) Work out -2×-3

.....

(1)

(Total for Question 1 is 4 marks)

2 Here are eight shapes drawn on a grid of centimetre squares.



Two of these shapes are congruent.

(a) Write down the letters of these two shapes.

..... and .....

(1)

Shape **H** is an enlargement of one of the other shapes.

(b) Which shape?

.....

(1)

(Total for Question 2 is 2 marks)

3 The diagram shows the distances by rail, in kilometres, between five towns.

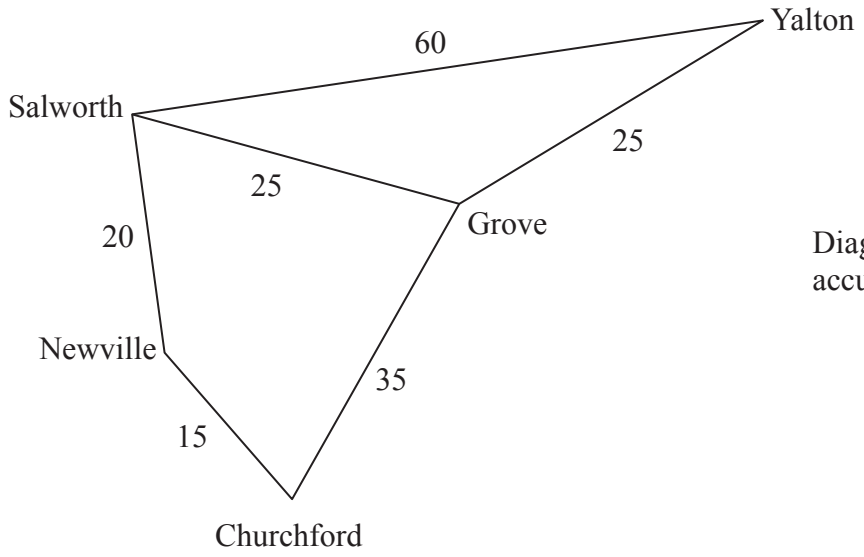


Diagram **NOT** accurately drawn

Work out the shortest distance by rail between Newville and Yalton.

.....kilometres

(Total for Question 3 is 2 marks)

4 (a) Write 3 metres in centimetres.

.....centimetres

(1)

(b) Write 4000 grams in kilograms.

.....kilograms

(1)

(c) Write 700 millilitres in litres.

.....litres

(1)

(Total for Question 4 is 3 marks)

5 Harry puts sweets into bags.
He then puts the bags of sweets into boxes.

Harry puts 25 sweets into each bag.
He then puts up to 60 bags of sweets into each box.

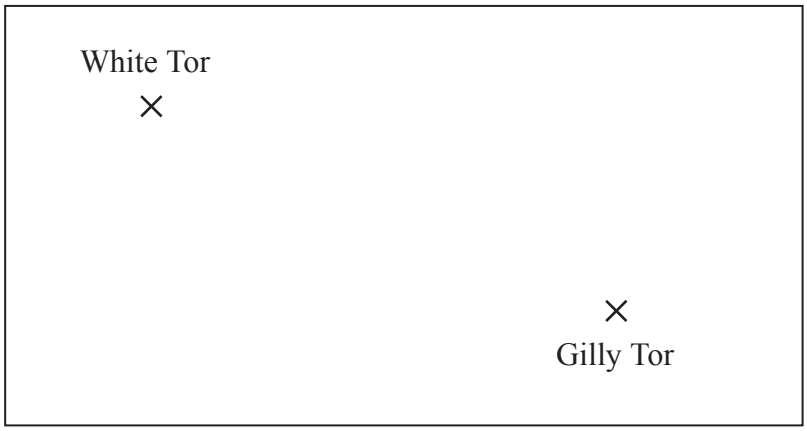
Harry has 4200 sweets.

Work out the least number of boxes he needs.

.....

(Total for Question 5 is 3 marks)

6 The diagram shows the positions of White Tor and Gilly Tor on a map.



The scale of the map is 1 centimetre represents 2.5 kilometres.

Work out the real distance between White Tor and Gilly Tor.

.....kilometres

(Total for Question 6 is 2 marks)

7 Jeeha goes to the cinema with some friends.

She has two vouchers for cinema tickets.

Voucher
Cinema tickets
3 for the price of 2

Voucher
Cinema tickets
3 for the price of 2

A cinema ticket costs £8.30
Jeeha needs 7 cinema tickets.

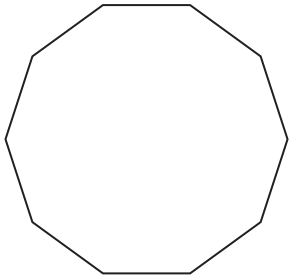
Jeeha buys the cinema tickets.
She uses both vouchers.

Work out the total amount Jeeha pays for the cinema tickets.

£ .....

(Total for Question 7 is 3 marks)

8 Here is a regular 10-sided polygon.



(a) Write down the mathematical name of the polygon.

.....

(1)

One of the interior angles of this regular polygon is 144°

(b) Work out the sum of the interior angles of the polygon.

.....°

(1)

(Total for Question 8 is 2 marks)

***9** Kerry is going to make some sandwiches.

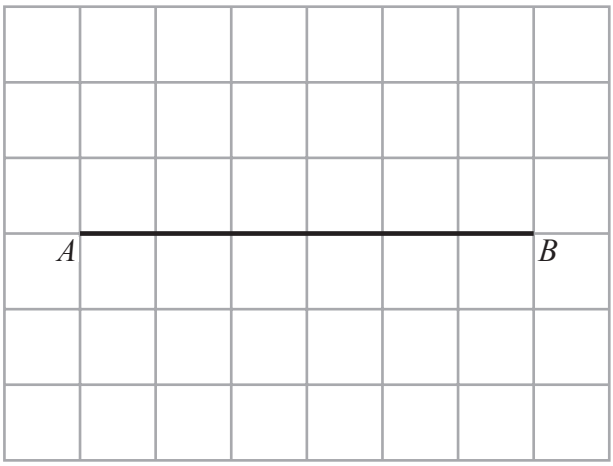
She has 3 packs of bread.
There are 18 slices of bread in each pack.

Kerry wants to make 25 sandwiches.
She will use 2 slices of bread to make each sandwich.

Does Kerry have enough bread to make 25 sandwiches?
You must show all your working.

(Total for Question 9 is 3 marks)

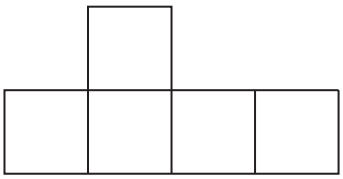
10 The line AB is drawn on a grid of centimetre squares.



(a) On the grid, draw a line that is parallel to the line AB.

(1)

The diagram shows an incomplete net of a cube.



(b) On the diagram, complete a net for the cube.

(1)

(Total for Question 10 is 2 marks)

11 Fiona, Barry and Clive each put some coins into a charity box.

The table gives information about the coins they put into the charity box.

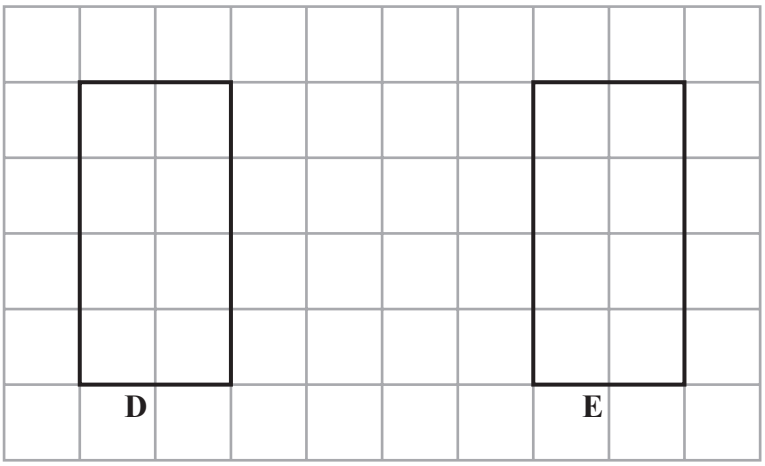
	1p	2p	5p	10p
Fiona	3	4	2	0
Barry	4	3	0	2
Clive	0	1	3	4

Work out the total amount of money they put into the charity box.

£ .....

(Total for Question 11 is 3 marks)

12



Rectangle **E** is a reflection of rectangle **D**.

(a) On the grid, draw the mirror line.
Label your mirror line M.

(1)

A rectangle has
a length of 4 cm
a width of 3 cm.

(b) In the space below, make an accurate drawing of the rectangle.

(2)

(Total for Question 12 is 3 marks)

13 Here is the price list in Jose's Tea Shop.

Jose's Tea Shop

Drinks

tea	£1.85
coffee	£2.15
orange juice	95p

Snacks

cake	£2.75
cookie	£1.25
piece of fruit	65p

Jill buys a tea and two cookies.

Work out the total cost.

£ .....

(Total for Question 13 is 2 marks)

14 This rule is used to work out the cost of hiring a lawn mower.

cost = £7.25 × number of hours hired

Kim hires a lawn mower for 4 hours.

(a) Work out the cost.

£ .....

(2)

Tony hires a lawn mower.
The cost is £50.75

(b) How many hours did Tony hire the lawn mower for?

.....hours

(2)

(Total for Question 14 is 4 marks)

15 (a) Solve $x + x = 20$

$x =$ .....

(1)

(b) Solve $p - 4 = 9$

$p =$ .....

(1)

(c) Solve $3n = 24$

$n =$ .....

(1)

$R = 7x + 4y$
$x = -1$
$y = 3$

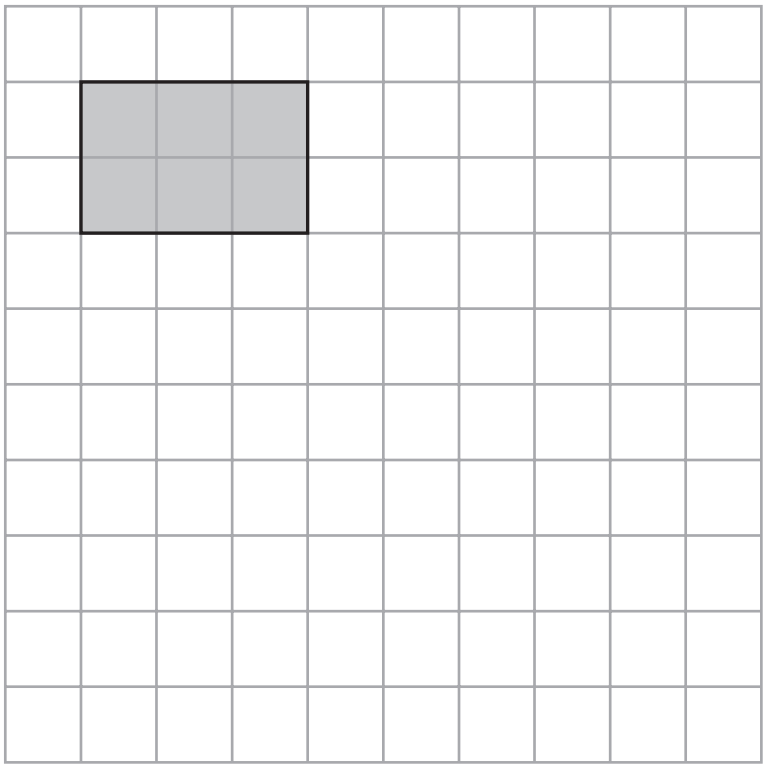
(d) Work out the value of R.

$R =$ .....

(2)

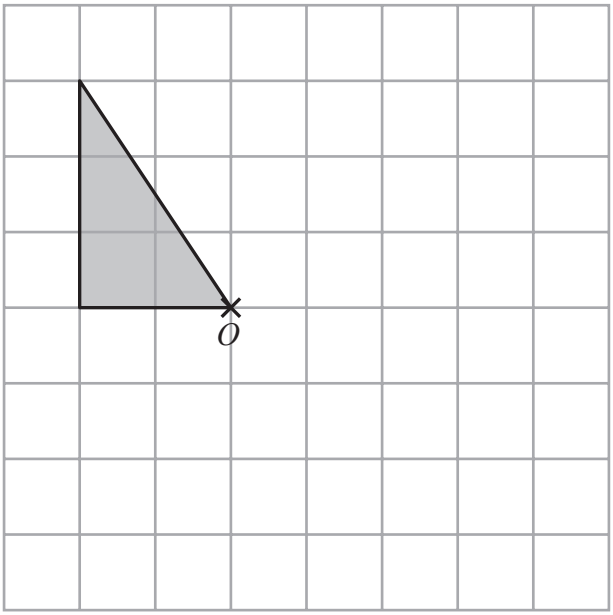
(Total for Question 15 is 5 marks)

16 (a) On the grid, draw an enlargement of the rectangle with scale factor 2



(1)

(b) On the grid, rotate the triangle 90° clockwise about the point O.



(2)

(Total for Question 16 is 3 marks)

***17** Pete works in a garage.
He uses an oil heater to heat the garage.

Pete uses the oil heater for $5\frac{1}{2}$ hours each day.
The oil heater uses 0.75 litres of oil each hour.

Pete is going to work in the garage for 60 days.
He has 250 litres of oil.

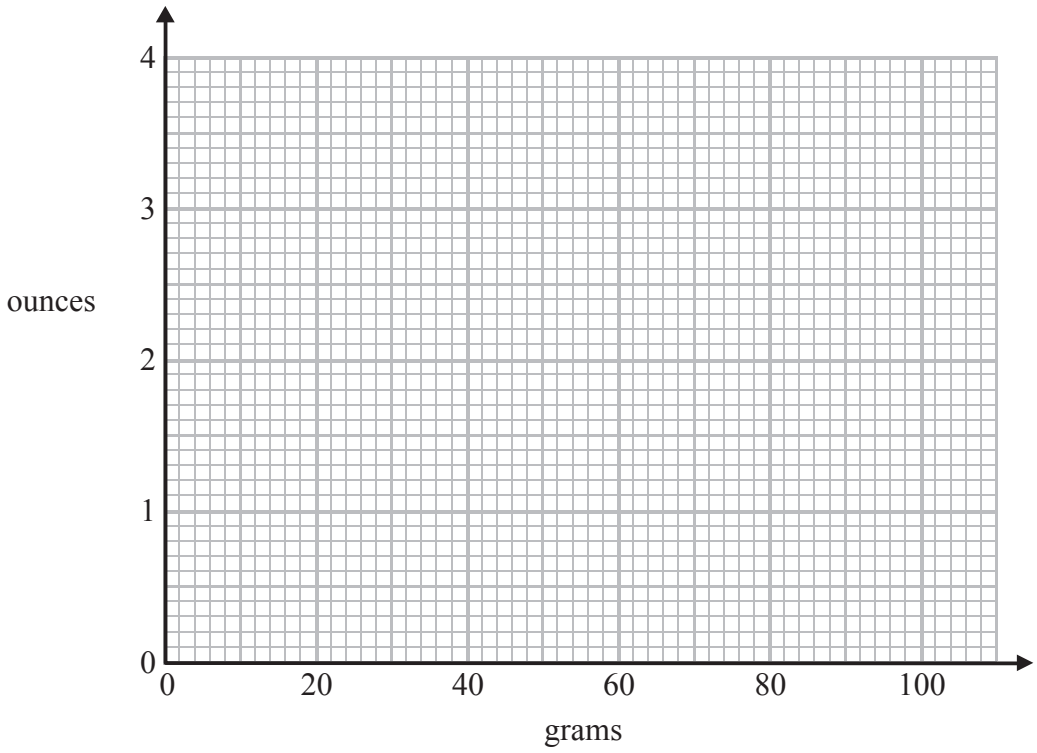
Does Pete have enough oil to heat the garage for 60 days?
You must show clearly how you got your answer.

(Total for Question 17 is 4 marks)

18 The table shows some weights in grams and the same weights in ounces.

grams	0	20	50	70	100
ounces	0	0.70	1.75	2.45	3.50

(a) On the grid, use this information to draw a line you can use to change between grams and ounces.



(2)

There are 24 eggs in a tray of eggs.

Each egg has a weight of 64 grams.
The tray has a weight of 1.6 ounces.

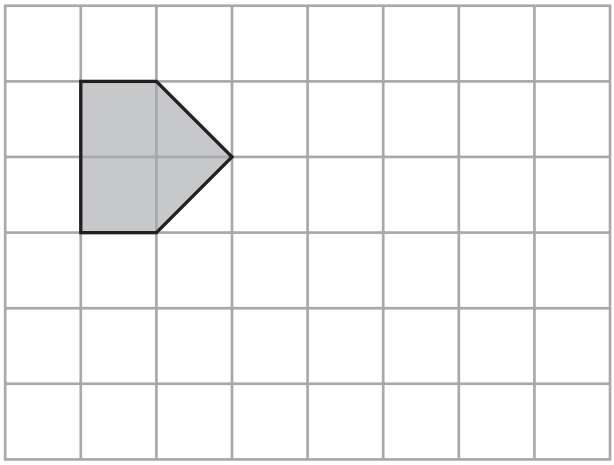
(b) Work out the total weight of the 24 eggs and the tray.

.....

(3)

(Total for Question 18 is 5 marks)

19 A shape is drawn on the grid.



On the grid, show how this shape will tessellate.

You should draw at least 8 shapes.

(Total for Question 19 is 2 marks)

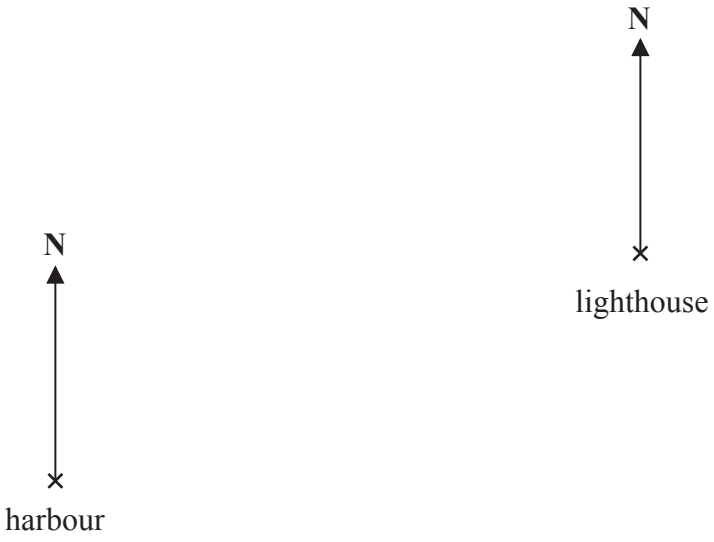
20 Tom invested £1000 for 2 years with Bettabank.
He got 2.5% simple interest each year.

Jay invested £1000 for 2 years with Moneyplus.
She got a total of £60 interest for the 2 years.

Show that Jay got the better investment.

(Total for Question 20 is 3 marks)

21 The diagram shows the positions of a lighthouse and a harbour on a map.



A boat is on a bearing of

300° from the lighthouse
040° from the harbour.

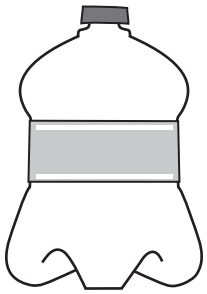
On the diagram, mark with a cross (×) the position of the boat.
Label the boat *B*.

(Total for Question 21 is 3 marks)

***22** A supermarket has two special offers on lemonade.

Bottles of lemonade

Special offer



15% off the normal price of each bottle

Cans of lemonade

Special offer

Buy 3 cans get 25p off the total cost

The normal price of a 2.5 litre bottle of lemonade is £1.60
The normal price of a 0.33 litre can of lemonade is 28p.

Jerry is going to buy 4 bottles of the lemonade on special offer or 30 cans of the lemonade on special offer.

Which special offer is the better value for money?

(Total for Question 22 is 5 marks)

23 Kumar has three boxes of counters A, B and C.

There are x counters in box A.
There are $(2x + 7)$ counters in box B.
There are $(3x - 4)$ counters in box C.

There is a total of 75 counters in the three boxes.

Work out the number of counters in box B.

.....

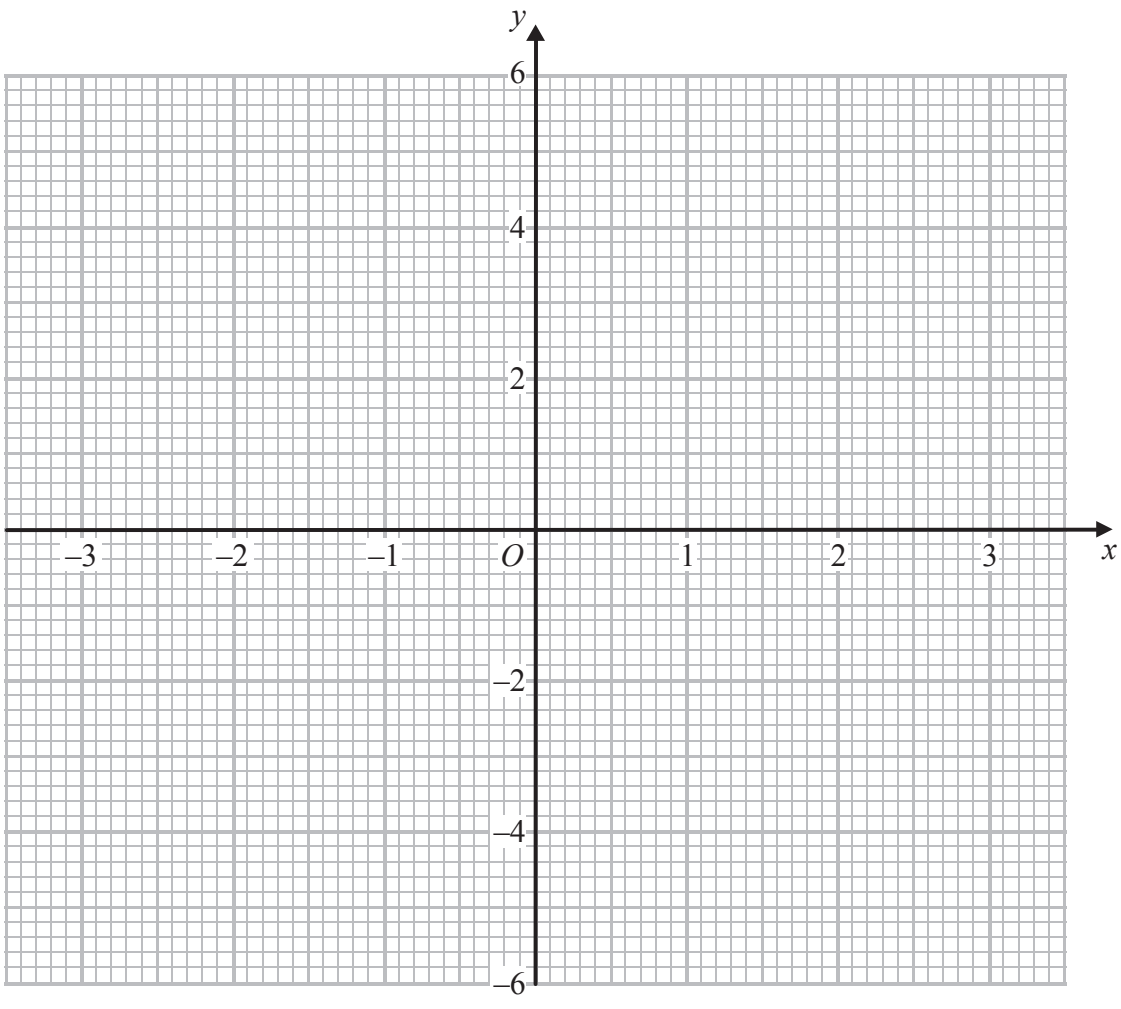
(Total for Question 23 is 4 marks)

24 (a) Complete the table of values for $y = 4 - x^2$

x	−3	−2	−1	0	1	2	3
y	−5		3			0	

(2)

(b) On the grid, draw the graph of $y = 4 - x^2$ for values of x from –3 to 3



(2)

(Total for Question 24 is 4 marks)

25 The diagram shows a container.

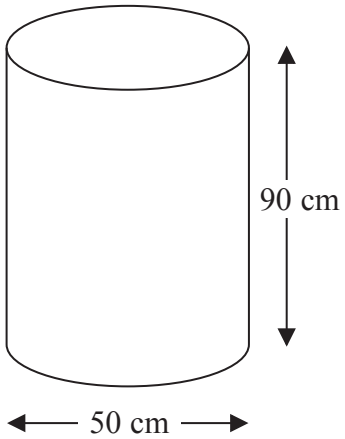


Diagram **NOT** accurately drawn

The container is in the shape of a cylinder.
The container is empty.

Jacques has a bucket.
He is going to use the bucket to fill the container with water.

The bucket holds 10 litres of water.

How many buckets of water does Jacques need to fill the container?
You must show your working.

(1 litre = 1000 cm^3)

.....

(Total for Question 25 is 4 marks)

TOTAL FOR PAPER IS 80 MARKS

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