21 Edexcel GCSE
Mathematics (Linear) – 1MA0

PICTOGRAMS

Materials required for examination	**Items included with question papers**
Ruler graduated in centimetres and	Nil
millimetres, protractor, compasses,	
pen, HB pencil, eraser.	
Tracing paper may be used.	

Instructions

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Fill in the boxes at the top of this page with your name, centre number and candidate number.
Answer all questions.
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Calculators may be used.

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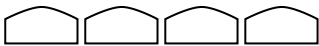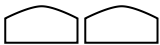
Advice

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.

1. The pictogram shows the numbers of loaves of bread made by Miss Smith, Mr Jones and
Mrs Gray.

Miss Smith	
Mr Jones	
Mrs Gray	
Ms Shah	
Mr Khan	

⌂ represents 20 loaves of bread

(a) Write down the number of loaves of bread made by Mr Jones.

....

(1)

(b) Write down the number of loaves of bread made by Mrs Gray.

....

(1)
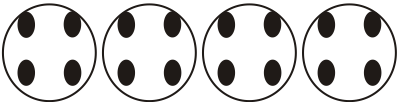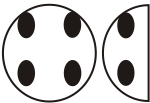
Ms Shah made 60 loaves of bread.
Mr Khan made 90 loaves of bread.

(c) Use this information to complete the pictogram.

(2)
(Total 4 marks)

2. The pictogram gives information about the number of goals scored in a local football
league in each of 3 weeks.

First week	
Second week	
Third week	
Fourth week	
Fifth week	

Key: represents 4 goals

(a) Find the number of goals scored in the first week.

…………………...

(1)

(b) Find the number of goals scored in the third week.

…………………...

(1)

8 goals were scored in the fourth week.
5 goals were scored in the fifth week.

(c) Complete the pictogram.

(2)
(Total 4 marks)

3. The pictogram shows the number of plates sold by a shop on Monday, Tuesday, Wednesday and Thursday of one week.

Monday	◯ ◯
Tuesday	◯ ◖
Wednesday	◯ ◯ ◯
Thursday	◯
Friday	
Saturday	

Key: ◯ represents 10 plates

(a) Work out the number of plates sold on Monday.

....

(1)

(b) Work out the number of plates sold on Tuesday.

....

(1)
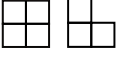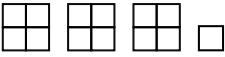
The shop sold 40 plates on Friday.
The shop sold 25 plates on Saturday.

(c) Use this information to complete the pictogram.

(2)
(Total 4 marks)

4. The pictogram shows the number of books sold on Wednesday, Thursday and Friday.

Wednesday	⊞ ⊞
Thursday	⊞ ⊟
Friday	⊞ ⊞ ⊞ ▫
Saturday	

Key: ⊞
represents 8
books

(a) Write down the number of books sold on Wednesday.

....

(1)

(b) Write down the number of books sold on Friday.

....

(1)

20 books were sold on Saturday.

(c) Use this information to complete the pictogram.

(1)
(Total 3 marks)

5. The pictogram shows the numbers of hours of sunshine on Monday, Tuesday and Wednesday one week.

Monday	◐ ◐ ◐ ◐
Tuesday	◐ ◐ ◐ ◐ ◐
Wednesday	◐ ◐ ◖
Thursday	
Friday	

Key: ◐ represents 2 hours

(a) Write down the number of hours of sunshine on

(i) Monday,

.... hours

(ii) Wednesday.

.... hours

(2)

On Thursday there were 4 hours of sunshine.

(b) Show this on the pictogram.

(1)
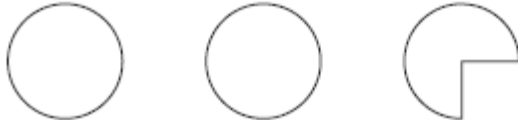
On Friday there were 7 hours of sunshine.
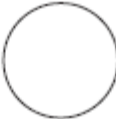
(c) Show this on the pictogram.

(1)
(Total 4 marks)

6. The pictogram shows the numbers of zips sold in a shop on Monday, on Tuesday and on Wednesday.

Key: ◯ represents 4 zips

(a) Write down the number of zips sold on Monday.

....
(1)

(b) Write down the number of zips sold on Wednesday.

....
(1)

9 zips were sold on Thursday.

(c) Complete the pictogram.

(1)

(3 marks)

7. The tally chart shows information about the numbers of text messages sent by some students last week.

Name of student	Tally	Frequency
Anna	ЦНТ ЦНТ ЦНТ ЦНТ IIII	24
Bhavini	ЦНТ ЦНТ II	12
Cassie	ЦНТ ЦНТ ЦНТ	
David	ЦНТ IIII	

(i) Complete the frequency column.

The pictogram shows the numbers of text messages sent by Anna and Cassie.

Key:

(ii) Complete the pictogram and the key.

(Total 5 marks)

22 Edexcel GCSE
Mathematics (Linear) – 1MA0

CONVERSION GRAPHS

Materials required for examination
Ruler graduated in centimetres and
millimetres, protractor, compasses,
pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers
Nil

Instructions

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and grammar, as well as the clarity of expression.

Advice

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1. The conversion graph can be used to change between pounds (£) and Euros (€).
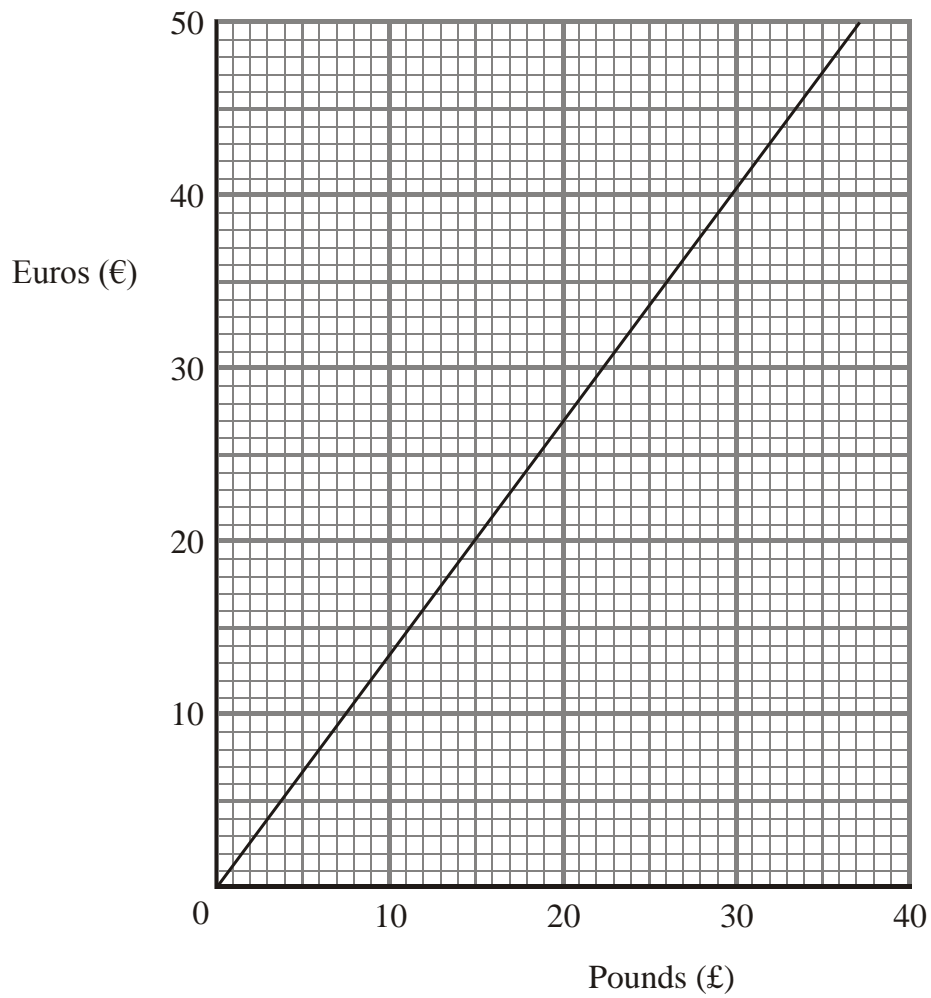
(a) Use the graph to change 30 pounds to Euros.

€ ....

(1)

(b) Use the graph to change 16 Euros to pounds.

£ ....

(1)

(Total 2 marks)

2. Here is a conversion graph between pounds (£) and Australian dollars.
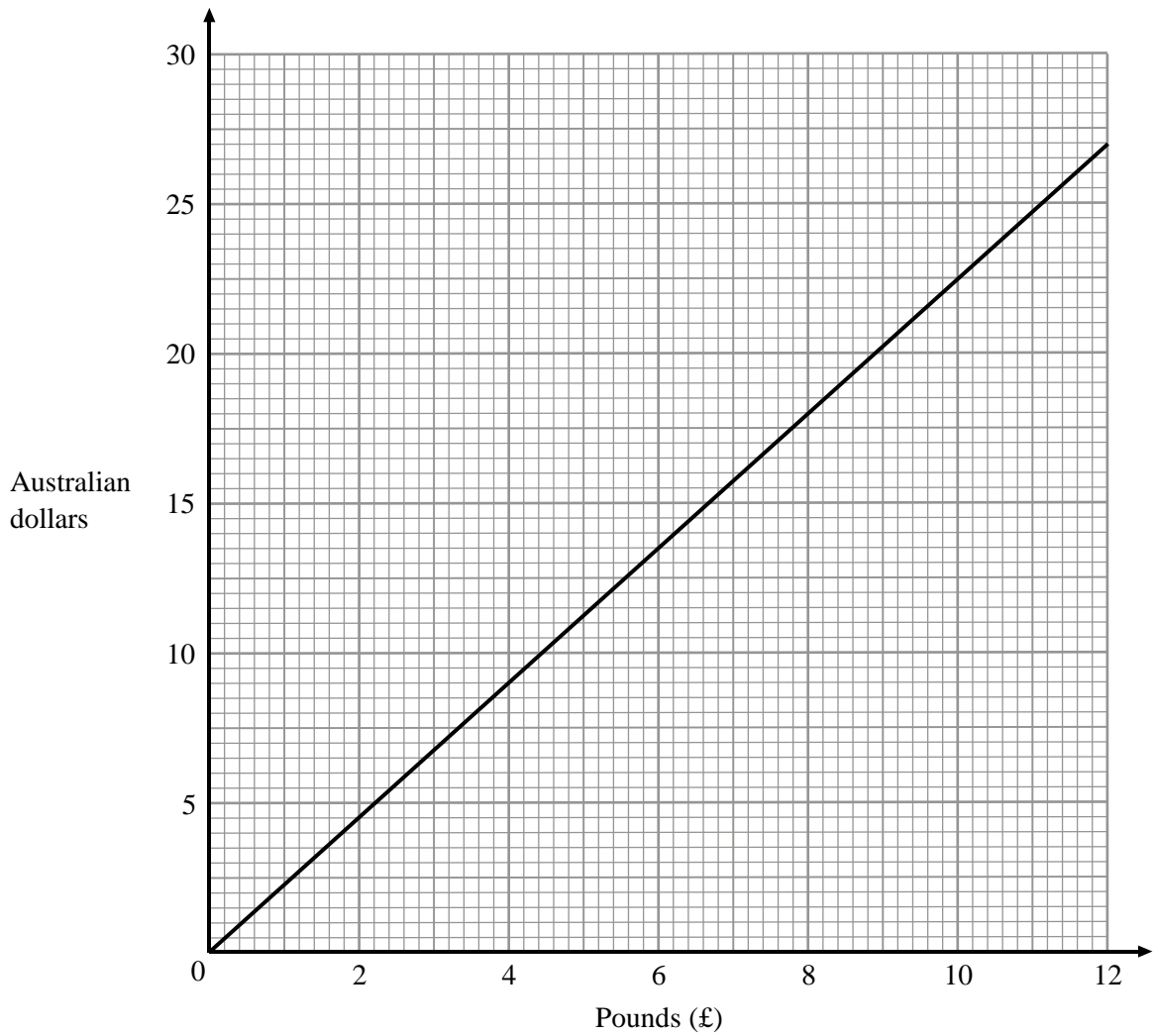
(a) Change 20 Australian dollars to pounds.

£ ....

(1)

(b) Change £7 to Australian dollars.

.... Australian dollars

(1)

(c) Change £400 to Australian dollars.

.... Australian dollars

(2)
(Total 4 marks)

3. John cleans carpets of different areas.
He uses this graph to work out the cost of cleaning a carpet.
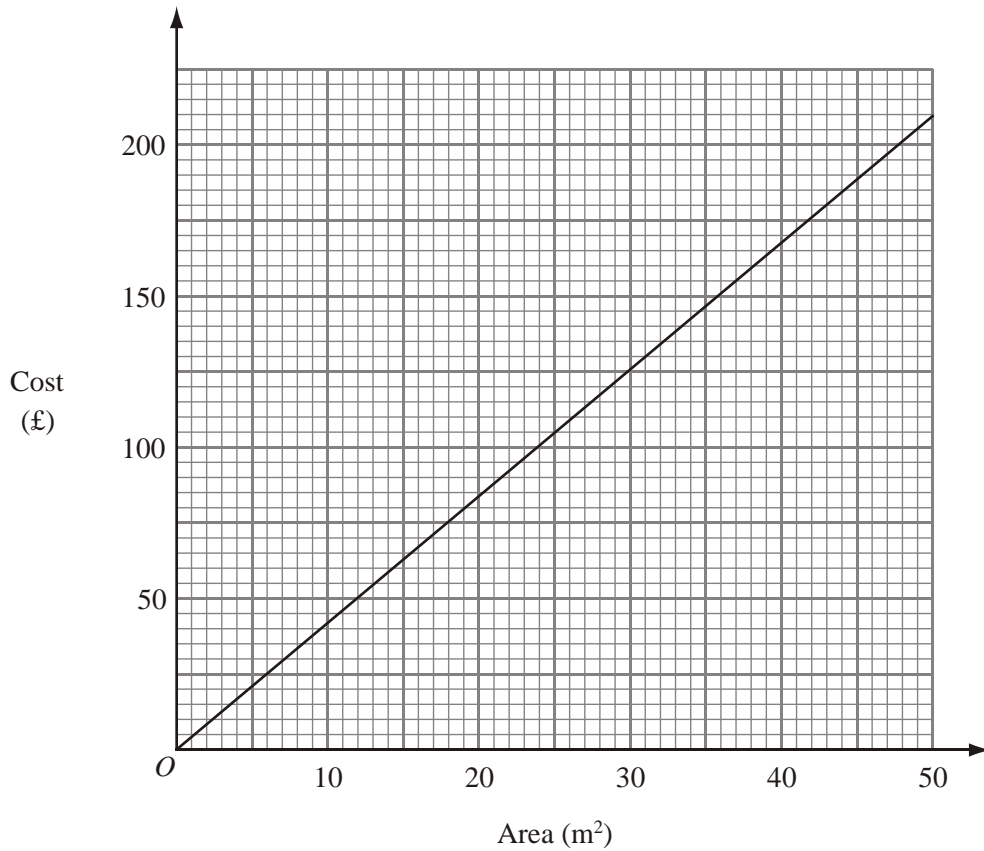
A carpet has an area of 30 m^2.

(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^2

(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)

4.
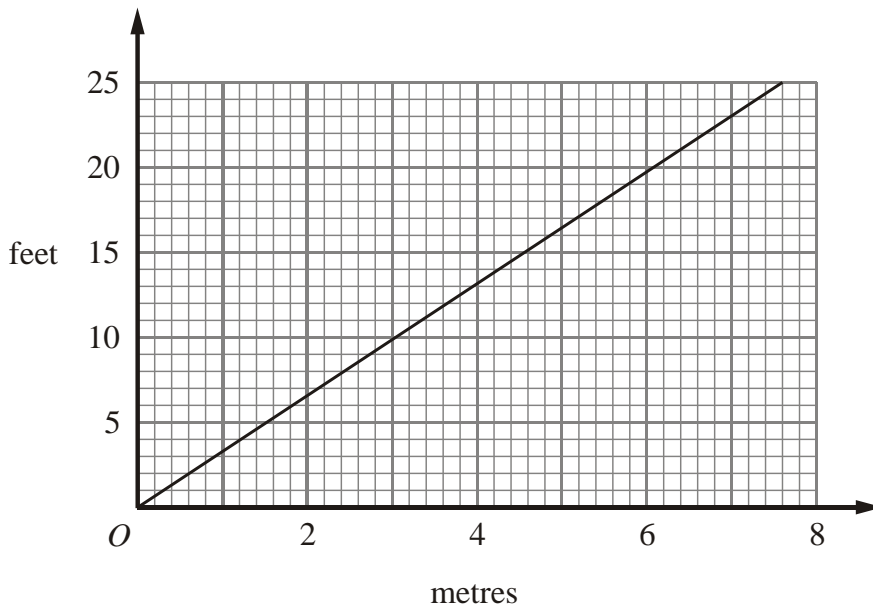
This conversion graph can be used to change between metres and feet.

(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)

5. This conversion graph can be used to change between litres and gallons.
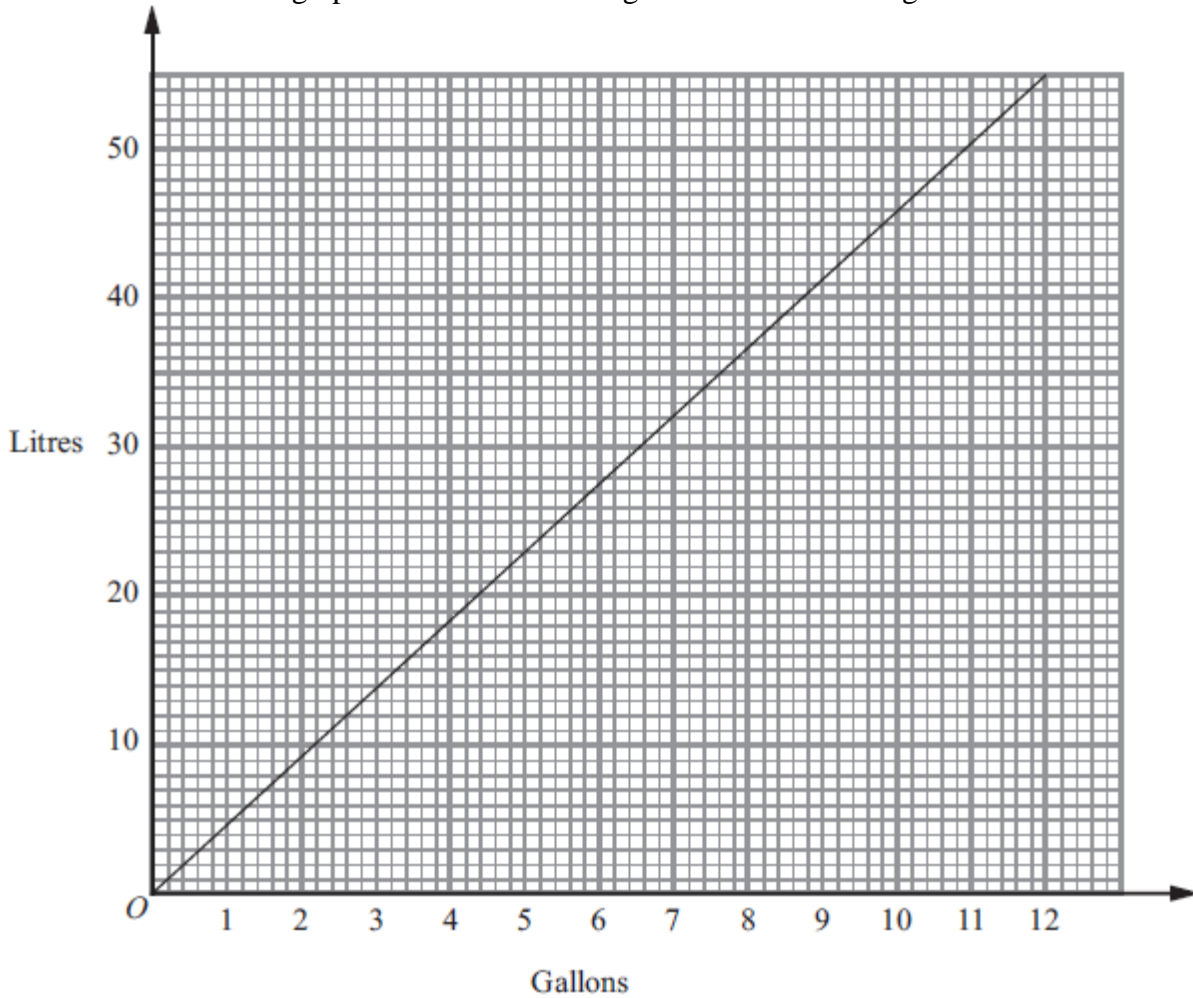
(a) Use the graph to change 50 litres to gallons.

.... gallons
(1)

(b) Use the graph to change 6 gallons to litres.

.... litres
(1)

1 litre of petrol costs £1.15

(c) Work out the cost of 50 litres of petrol.

£ ....
(2)

(d) Work out an estimate for the cost of 1 gallon of petrol.

£ ....
(2)
(Total 6 marks)

6. The exchange rate to change pounds (£) into US dollars ($) is £1 = $1.50

(a) Use this exchange rate to complete the table below.

Pounds (£)	0	1	2	5	10	20	50	100
US dollars ($)	0	1.50		7.50		30		150

(2)

(b) On the grid, draw a conversion graph for converting between pounds and US dollars.
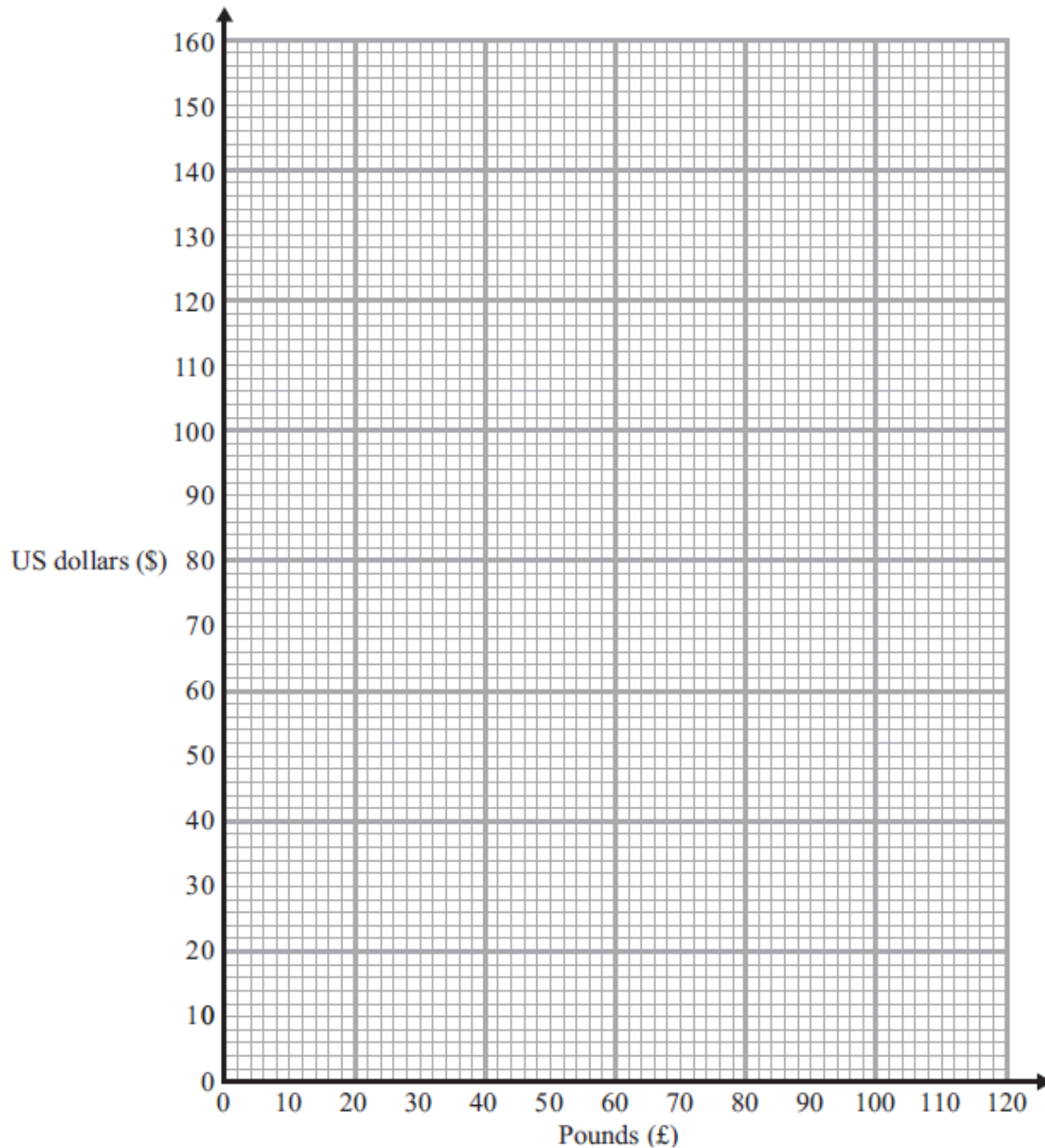
(2)

(c) Change $100 into pounds (£).

£ ....

(2)

(Total 6 marks)

7. You can use the graph to change between miles and kilometres.
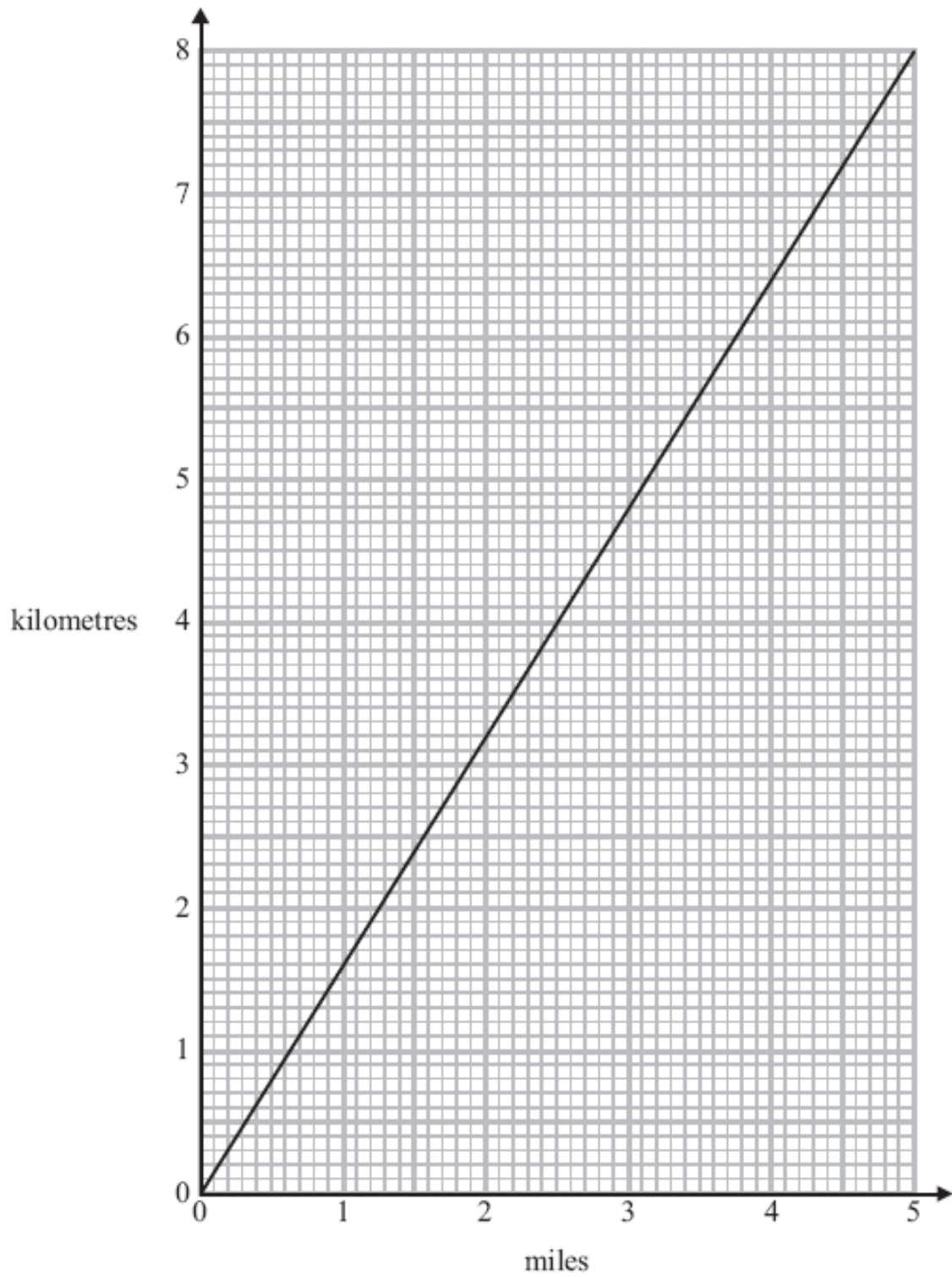
Change 60 kilometres into miles.

.... miles

(Total 3 marks)

23   Edexcel GCSE
Mathematics (Linear) – 1MA0

FACTORS, MULTIPLES PRIMES

Materials required for examination
Ruler graduated in centimetres and
millimetres, protractor, compasses,
pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers
Nil

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1.

Using only the numbers in the cloud, write down

(i)   all the multiples of 6,   ……………………………

(ii)   all the square numbers,   ……………………………

(iii) all the factors of 12,   ……………………………

(iv)   all the cube numbers.   ……………………………

(4 marks)

2.   Here is a list of numbers.

   2   5   7   8   9   12

Write down a number from the list which is

(i)   a multiple of 6, ...

(ii)   a factor of 15, ...

(iii) a square number.   ....

(3 marks)

3.   Here is a list of numbers.

             3   8   11   25   33   41

Write down a number from the list which is

(a)   an even number, ...

(1)

(b)   a square number, ...

(1)

(c)   a multiple of 11   ....

(1)

(3 marks)

4.
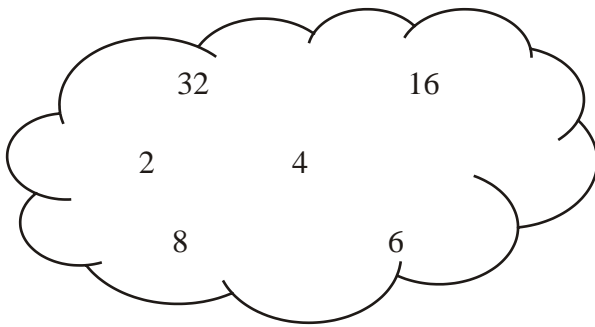
From the numbers in the cloud, write down

(a) a square number,

....

(1)

(b) the square root of 16,

....

(1)

(c) the cube of 2,

....

(1)

(d) the prime number.

....

(1)

(4 marks)

5.

2   3   4   5   6   7   8

From the list of numbers, write down

(i) the square number,

....

(ii) the cube number,

....

(iii) the square root of 9.

....

(3 marks)

6. Here is a list of numbers.

17   24   25   26   35   43   44

From the numbers in the list, write down

(i)   the odd number that is larger than 40,

....

(ii)   the number that is a multiple of 7,

....

(iii)   two numbers that have a difference of 20,

............, ...

(iv)   the number that has the same value as $2 + 3 \times 5$

....

(4 marks)

7. Here is a list of numbers.

8   15   23   27   32   33

From the numbers in the list, write down a number that is prime.

……………………………….

(1 marks)

8.

18   42

9

3

12

6   81

11   30
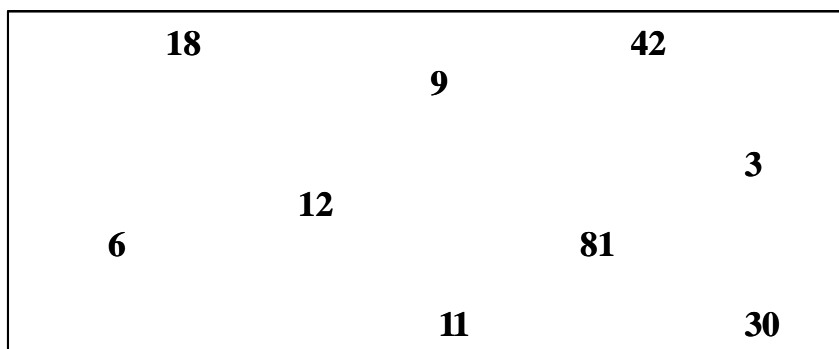
From the numbers in the rectangle,

(i)   write down a multiple of 4, ...

(ii)   write down a factor of 21, ...

(iii)   write down a prime number.   ....

(3 marks)

9. Here is a list of eight numbers.

    5   6   12   20   25   26   28   33

(a) From the list, write down

(i) a square number,

....

(ii) a number that is a multiple of 7,

....

(iii) **two** numbers that are factors of 40,

.... and ....

(iv) **two** numbers with a sum of 59.

.... and ....

(4)

(b) Tony says that "6 is a cube number because $2^3 = 6$".
Tony is wrong. Explain why.

....

(1)

(5 marks)

10.

8
9   10
12
30   3
5   20

Using only the numbers in the rectangle, write down

(i) an even number

....

(ii) a multiple of 4

....

(iii) a factor of 15

....

(3 marks)

11.

| factor | multiple | square | square root | half |

(a) Use a word from the list above to complete the following sentence.

10 is a .... of 5

(1)

(b) From the list below, write down the odd number.

10   15   18   20   24

………………...

(1)

(c) From the list below, write down the square number.

10   12   14   16   18   20

………………...

(1)

(3 marks)

12. Here is a list of numbers.

2   4   5   6   7   8

From the list of numbers write down

(i)   an odd number   ....

(ii)   a square number   ....

(iii)   a multiple of 3   ....

(iv)   a factor of 10   ....

(4 marks)

13. Here is a list of 8 numbers.

4   7   10   16   18   20   21   32

From the numbers in the list write down a number that is

(i)   an odd number   ....

(ii) a multiple of 5   ....

(iii) a square number   ....

(iv) a factor of 42   ....

(4 marks)

14. Here is a list of 8 numbers.

$$3 \quad 5 \quad 6 \quad 8 \quad 9 \quad 10 \quad 11 \quad 16$$

From the list, write down

(a) **two** odd numbers,

.... and ....
(1)

(b) **two** numbers with a sum of 15

.... and ....
(1)

(c) a factor of 12

....
(1)

(d) a multiple of 4

....
(1)

James says that 10 is a square number because $5^2 = 10$

(e) James is wrong.
Explain why.

....

....
(1)
(5 marks)

15. (a) Here is a list of numbers.

3	5	7	8	9	10	12

From the list of numbers, write down

(i)   a multiple of 6   ....

(ii) a factor of 14   ....

(iii) a square root of 25   ....

(3)

(b) Scott says

'If you add two different square numbers, you will always get an even number.'

Show that Scott is **wrong**.

(2)

(5 marks)

16. Here is a list of numbers.

2   5   8   10   13   14   16   18

(a) From the list, write down

(i)   an odd number, ...

(ii)   the multiple of 6, ...

(iii) the square number.   ....

(3)

Erin says that 8 is a prime number.

(b) Erin is wrong.
Explain why.

....

....

(1)

(4 marks)

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Mathematics (Linear) – 1MA0

POWERS, ROOTS & BIDMAS

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Advice

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1. (a) Work out $4 \times 3 + 2$

....
(1)

(b) Work out $20 - 12 \div 4$

....
(1)

(c) Work out $(18 \div 3) + (20 \div 5)$

....
(1)

(d) Work out $(3 + 5)^2$

....
(1)

(4 marks)

2. Work out

(i) $3 \times 3 - 5$

....

(ii) $20 \div (12 - 2)$

....

(iii) $7 + 8 \div 4$

....

(3 marks)

3. Beth says $20 - 5 \times 3$ is 45

Pat says $20 - 5 \times 3$ is 5

   (a)   Who is right?
          Give a reason for your answer.

                                                      .... is right

(2)

   (b)   Work out $(12 + 9) \div 3$

                                                    ....

(1)

(3 marks)

---

4.   (a)   Work out the value of

         (i)   the square of 6

                                                      ....

         (ii) 2^4

                                                        ....

(2)

   (b) Work out the value of

         (i) $-10 \div 5$

                                                      ....

         (ii) -3×-4

                                                       ....

(2)

(4 marks)

5. (a) Work out $2 \times (11 + 9)$

....
(1)

(b) Work out $3 \times 5 + 4$

....
(1)

(c) Work out $20 - 5 \times 3$

....
(1)
(3 marks)

6. (a) Work out the value of $(4 + 5) \times 2 + 3$

....
(1)

(b) Add brackets ( ) to make each statement correct.
You may use more than one pair of brackets in each statement.

(i) $4 + 5 \times 2 + 3 = 29$

(ii) $4 + 5 \times 2 + 3 = 45$

(2)
(3 marks)

7. (a) Work out the value of $(2 + 3) \times 4 + 5$

…………………

(1)

(b) Add brackets ( ) to make each statement correct.
You may use more than one pair of brackets in each statement.

(i) $2 + 3 \times 4 + 5 = 29$

(ii) $2 + 3 \times 4 + 5 = 45$

(2)
(3 marks)

8. Work out

(i) $2 \times 3 + 4$

……………………

(ii) $3 + 5 \times 2$

……………………

(ii) $16 \div (2 \times 4)$

……………………
(3 marks)

9. (a) Work out

$$\frac{-8 \times -3}{-6}$$

.... **(1)**

(b) Work out

$33 \times 10 - 6 \times 5$

.... **(2)**

(c) Work out

$6 + 2 \times (5 - 1)$

.... **(2)**

(5 marks)

10. Frankie says that $\quad 15 - 3 \times 2 = 24$

Frankie is wrong.
Explain why.

....

....

....

....

(3 marks)

11. (a) Work out $4 \times 5 - 8$

....
(1)

(b) Work out $18 + 2 \times 3$

....
(1)

(c) Work out $7 + 3 \times 5$

....
(1)

(d) Work out $13 - 3 \times 4 + 2$

....
(1)

(e) Work out $(4 + 3) \times 7$

....
(1)

(e) Work out $20 - (4 + 10)$

....
(1)

(6 marks)

12. (a) Write down the value of $\sqrt{81}$

....
(1)

(b) Work out the value of $5^2 + 2^3$

....
(2)
(3 marks)

13. (a) Work out the value of $(9 + 2) \times 6 - 3$

…………………
(1)

(b) Add brackets ( ) to make each statement correct.
You may use more than one pair of brackets in each statement.

(i) $9 + 2 \times 6 - 3 = 18$

(ii) $9 + 2 \times 6 - 3 = 15$

(2)
(3 marks)

25 Edexcel GCSE
Mathematics (Linear) – 1MA0

ORDERING FRACTIONS, DECIMALS & PERCENTAGES

Materials required for examination
Ruler graduated in centimetres and
millimetres, protractor, compasses,
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Advice

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Check your answers if you have time at the end.

1. $\frac{5}{8}$ $\frac{1}{2}$ $\frac{3}{4}$

Write these fractions in order of size.
Start with the smallest fraction.

....
(Total 2 marks)

2. Write these numbers in order of size.
Start with the smallest number.

(i)   75, 56, 37, 9, 59

....

(ii) 0.56, 0.067, 0.6, 0.65, 0.605

....

(iii) 5, – 6, – 10, 2, – 4

....

(iv) $\frac{1}{2}$, $\frac{2}{3}$, $\frac{2}{5}$, $\frac{3}{4}$

....
(Total 5 marks)

3. Write these numbers in order of size.
Start with the smallest number.

(i)   0.56, 0.067, 0.6, 0.65, 0.605

....

(ii) 5, − 6, − 10, 2, − 4

....

(iii) $\dfrac{1}{2}$, $\dfrac{2}{3}$, $\dfrac{2}{5}$, $\dfrac{3}{4}$

....

(Total 4 marks)

4. Write these fractions in order of size.
Start with the smallest fraction.

$\dfrac{9}{16}$ $\dfrac{3}{4}$ $\dfrac{1}{2}$ $\dfrac{5}{8}$

……………………………

(Total 2 marks)

5. Write these numbers in order of size.
Start with the smallest number.

$$0.82 \qquad \frac{4}{5} \qquad 85\% \qquad \frac{2}{3} \qquad \frac{7}{8}$$

....

(2)
(Total 2 marks)

6. Write these numbers in order of size.
Start with the smallest number.

(a) 76, 103, 13, 130, 67

…………………………………………………………

(1)

(b) –3, 5, 0, –7, –1

…………………………………………………………

(1)

(c) 70%, $\frac{3}{4}$, 0.6, $\frac{2}{3}$

…………………………………………………………

(2)
(Total 4 marks)

7.   Write these numbers in order of size.
Start with the smallest number.

$$0.4 \quad \frac{7}{15} \quad 35\% \quad \frac{3}{7}$$

…………………………………………………………………

8.   Here are six numbers

$$75\% \quad \frac{8}{10} \quad \frac{9}{12} \quad 0.75 \quad 66\frac{2}{3}\% \quad \frac{6}{8}$$

Two of the numbers are **not** equal to $\frac{3}{4}$

Draw a circle around each of the two numbers.

26   Edexcel GCSE
Mathematics (Linear) – 1MA0

BEST BUYS

Materials required for examination
Ruler graduated in centimetres and
millimetres, protractor, compasses,
pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers
Nil

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.

Information

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spend on **each** question.
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will be assessed – you should take particular care on these questions with your spelling, punctuation
and grammar, as well as the clarity of expression.
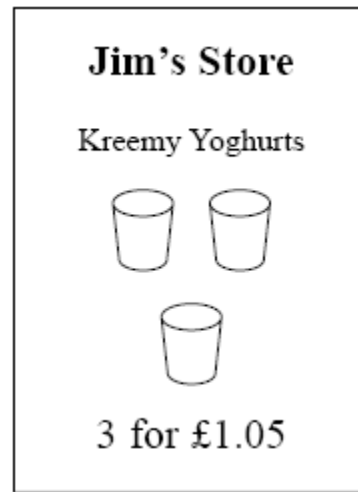
Advice

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.

1.   Two shops, Food Mart and Jim's Store, both sell Kreemy Yoghurts.
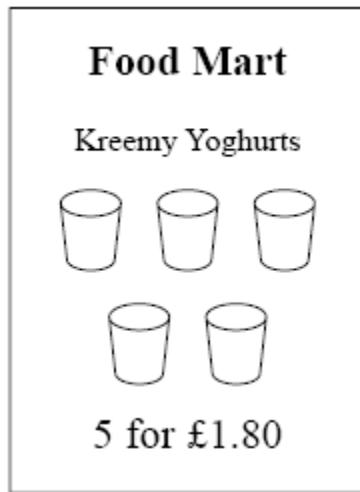
At which shop are Kreemy Yoghurts the better value for money?
You must show all your working.

....

2.
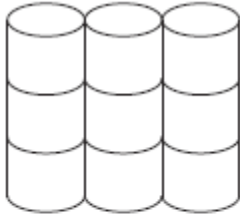
Pack of 9
toilet rolls
£4.23
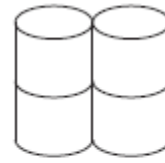
Pack of 4
toilet rolls
£1.96

A pack of 9 toilet rolls costs £4.23
A pack of 4 toilet rolls costs £1.96

Which pack gives the better value for money?

You must show all your working.

....
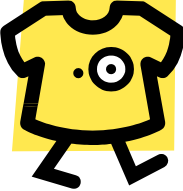
(3 marks)

*3. T-shirts normally cost £12 each.

Two shops have a special offer on these T-shirts.

T-Shirts-R-Us

Special offer
Pay for two T-shirts and get one free.
Pay for five T-shirts and get three free

Budget Shirt Company

Special offer

1/3 off normal price

Stephen wants to buy 30 T-shirts.

Work out at which shop, Stephen will get the better deal.
You must show clearly how you got your answer.

....

(4 marks)

*4. Potatoes cost £9 for a 12.5 kg bag at a farm shop.
The same type of potatoes cost £1.83 for a 2.5 kg bag at a supermarket.

Where are the potatoes the better value, at the farm shop or at the supermarket?
You must show your working.

....
(4 marks)

*5. Radox Handwash cost is on offer at Boots and Superdrug.

Boots   500ml bottles on offer at 3 for 2
Superdrug   300ml bottles on offer at buy one get one free

Where is the handwash better value, at Boots or Superdrug?
You must show your working.

....
(4 marks)

*6. Carrots cost £1 for a 1.2 kg bag at Tesco.
The same type of carrots cost 77 pence for a 700 g bag at ASDA.

Where are the Carrots better value.
You must show your working.

....

(4 marks)

*7. Diet Coke is on offer at Morrisons and Sainsburys.

        Morrisons: 2 litre bottles on offer 3 for £4.50
        Sainsburys: 24 cans x 330ml on offer for £8.85

....

(4 marks)

8. Thomas wants to buy an iPod.
The iPod that Thomas wants is sold in two different shops.

Pod Direct
15% OFF usual price of £120

Music City
£84 plus VAT at 17½ %

Work out the difference in the cost of the iPod at the two shops..

£ ……………………

(5 marks)

*9. Railtickets and Cheaptrains are two websites selling train tickets.

Each of the websites adds a credit card charge and a booking fee to the ticket price.

Railtickets Credit card charge: 2.25% of ticket price Booking fee: 80 pence	**Cheaptrains** Credit card charge: 1.5% of ticket price Booking fee: £1.90

Nadia wants to buy a train ticket.
The ticket price is £60 on each website.
Nadia will pay by credit card.

Will it be cheaper for Nadia to buy the train ticket from Railtickets or from Cheaptrains?

....

(4 marks)

27   Edexcel GCSE
Mathematics (Linear) – 1MA0

FRACTIONS: ADDING, SUBTRACTING, MULTIPLYING AND DIVIDING

Materials required for examination
Ruler graduated in centimetres and
millimetres, protractor, compasses,
pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers
Nil

Instructions

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Calculators may be used.

Information

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will be assessed – you should take particular care on these questions with your spelling, punctuation
and grammar, as well as the clarity of expression.

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.

1. Work out $\dfrac{2}{5} + \dfrac{1}{7}$

....
(Total 2 marks)

2. Work out $\dfrac{2}{3} + \dfrac{1}{5}$

……………………….
(Total 2 marks)

3. Work out $\dfrac{11}{12} - \dfrac{5}{6}$

....
(Total 2 marks)

4. (a) Work out $\dfrac{1}{3} + \dfrac{1}{12}$

....

(2)

(b) Work out $\dfrac{3}{4} \times \dfrac{1}{5}$

....

(1)

(Total 3 marks)

5. Work out the value of $\dfrac{2}{3} \times \dfrac{3}{4}$

Give your answer as a fraction in its simplest form.

....

(Total 2 marks)

6. Work out $60 \times \dfrac{2}{3}$

…………………………..
(Total 2 marks)

7. (a) Work out $\qquad 1 - \left(\dfrac{1}{2} + \dfrac{1}{6} \right)$

....
(3)

(b) Work out $\qquad 12\dfrac{1}{2} \div \dfrac{5}{8}$

....
(3)
(Total 6 marks)

8. (a) Work out $\dfrac{2}{5} + \dfrac{3}{8}$

....
(2)

(b) Work out $5\dfrac{2}{3} - 2\dfrac{3}{4}$

....
(3)
(Total 5 marks)

9. (a) Work out $\dfrac{1}{3} + \dfrac{3}{5}$

....
(2)

(b) Work out $2\dfrac{1}{4} \div \dfrac{3}{5}$

....
(3)
(Total 5 marks)

10. Work out

$$3\frac{3}{4} \times 2\frac{2}{3}$$

………………………………

(Total 3 marks)

11. (a) Work out $1\frac{7}{8} \times 5\frac{1}{3}$

....

(2)

(b) Work out $3\frac{1}{2} \div 2\frac{4}{5}$

....

(2)

(Total 4 marks)

12. (a) Work out the value of $\dfrac{2}{3} \times \dfrac{3}{4}$

Give your answer as a fraction in its simplest form.

……………………….

(2)

(b) Work out the value of $1\dfrac{2}{3} + 2\dfrac{3}{4}$

Give your answer as a fraction in its simplest form.

…………………….

(3)

(Total 5 marks)

13. Work out $5\dfrac{2}{3} - 2\dfrac{3}{4}$

……………………….

(Total 3 marks)

14. Work out $\quad 4\dfrac{1}{2} + 1\dfrac{2}{5}$

....

(Total 3 marks)

15. Work out $\quad 3\dfrac{2}{5} - 1\dfrac{3}{4}$

....

(Total 3 marks)

28   Edexcel GCSE
Mathematics (Linear) – 1MA0

RATIO

Materials required for examination
Ruler graduated in centimetres and
millimetres, protractor, compasses,
pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers
Nil

Instructions

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and grammar, as well as the clarity of expression.

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.

1. A piece of wood is of length 45 cm.
The length is divided in the ratio 7 : 2

Work out the length of each part.

.... cm, ... cm

(3 marks)

---

2. Alex and Ben were given a total of £240
They shared the money in the ratio 5 : 7

Work out how much money Ben received.

£ ....

(3 marks)

3.   Ken and Susan share £20 in the ratio 1 : 3
Work out how much money each person gets.

Ken £ ....

Susan £ ....

(3 marks)

---

4.   Melissa is 13 years old.
Becky is 12 years old.
Daniel is 10 years old.

Melissa, Becky and Daniel share £28 in the ratio of their ages.
Becky gives a third of her share to her mother.

How much should Becky now have?

£ ....

(Total 4 marks)

5.   Amy, Beth and Colin share 36 sweets in the ratio 2 : 3 : 4

Work out the number of sweets that each of them receives.

Amy………….sweets

Beth………….sweets

Colin…………..sweets

(3 marks)

---

6.   A shop sells CDs and DVDs.
In one week the number of CDs sold and the number of DVDs sold were in the ratio 3:5
The total number of CDs and DVDs sold in the week was 728

Work out the number of CDs sold.

....

(3 marks)

7. The ratio of girls to boys in a school is 2 : 3

   (a) What fraction of these students are boys?

………………

(2)

  In Year 8 the ratio of girls to boys is 1 : 3

  There are 300 students in Year 8.

  (b) Work out the number of girls in Year 8.

………………

(3)
(5 marks)

---

8. Ann and Bob shared £240 in the ratio 3 : 5

  Ann gave a **half** of her share to Colin.

  Bob gave a **tenth** of his share to Colin.

  What fraction of the £240 did Colin receive?

....

(5 marks)

9. Peter won £75 as a prize.

He gave 4/5 of the prize money as a present to Roger and Bethan.
Roger and Bethan shared the present in the ratio 2:3
Work out how much they each got.

....
(4 marks)

---

10. Rosa prepares the ingredients for pizzas.

She uses cheese, topping and dough in the ratio 2 : 3 : 5
Rose uses 70 grams of dough.

Work out the number of grams of cheese and the number of grams of topping Rosa uses.

Cheese .... g

Topping .... g
(Total 3 marks)

11. 5 schools sent some students to a conference.

One of the schools sent both boys and girls.
This school sent 16 boys.
The ratio of the number of boys it sent to the number of girls it sent was 1 : 2

The other 4 schools sent only girls.
Each of the 5 schools sent the same number of students.

Work out the total number of students sent to the conference by these 5 schools.

....

(4 marks)

12. Pat and Julie share some money in the ratio 2 : 5
Julie gets £45 more than Pat.

How much money did Pat get?

£..

(4 marks)

13. Last year Kerry's take home pay was £15 000
She spent 40% of her take home pay on rent.

She used the rest of her take home pay for living expenses, clothes and entertainment in the ratio 3 : 1 : 2

How much did Kerry spend on entertainment last year?

£..

(4 marks)

*14. Talil is going to make some concrete mix.
He needs to mix cement, sand and gravel in the ratio 1 : 3 : 5 by weight.

Talil wants to make 180 kg of concrete mix.

Talil has

    15 kg of cement
    85 kg of sand
    100 kg of gravel

Does Talil have enough cement, sand and gravel to make the concrete mix?

(4 marks)

15. Jim has only 5p coins and 10p coins.

The ratio of the number of 5p coins to the number of 10p coins is 2 : 3

Work out the ratio of

    the total value of the 5p coins : the total value of the 10p coins.

Give your answer in its simplest form.

(4 marks)

29   Edexcel GCSE
Mathematics (Linear) – 1MA0

PROPORTION

Materials required for examination
Ruler graduated in centimetres and
millimetres, protractor, compasses,
pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers
Nil

Instructions

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Calculators may be used.

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will be assessed – you should take particular care on these questions with your spelling, punctuation
and grammar, as well as the clarity of expression.

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.

1. Here is a list of ingredients for making **10** Flapjacks.

> **Ingredients for 10 Flapjacks**
>
> 80 g rolled oats
>
> 60 g butter
>
> 30 m*l* golden syrup
>
> 36 g light brown sugar

Work out the amount of each ingredient needed to make **15** Flapjacks.

.... g rolled oats

.... g butter

.... m*l* golden syrup

.... g light brown sugar

(Total 3 marks)

2. Fred has a recipe for 30 biscuits.

Here is a list of ingredients for 30 biscuits.

Self-raising flour   : 230g
Butter   : 150g
Caster sugar   : 100g
Eggs   : 2

Fred wants to make 45 biscuits.

(a) Complete his new list of ingredients for 45 biscuits.

Self-raising flour   :…………………

Butter   : …………………

Caster sugar   : …………………

Eggs   : …………………

(3)

Gill has only 1 kilogram of self-raising flour. She has plenty of the other ingredients.

(b) Work out the maximum number of biscuits that Gill could bake.

....

(3)

(6 marks)

3. Here are the ingredients needed to make 16 gingerbread men.

```
          Ingredients
    to make 16 gingerbread men

        180 g   flour
         40 g   ginger
        110 g   butter
         30 g   sugar
```

Hamish wants to make 24 gingerbread men.
Work out how much of each of the ingredients he needs.

....g   flour

....g ginger

....g   butter

....g   sugar

(3 marks)

4.   Here are the ingredients needed to make 12 shortcakes.

> **Shortcakes**
>
> Makes **12** shortcakes
>
> 50 g   of sugar
> 200 g   of butter
> 200 g   of flour
> 10 m*l* of milk

Liz makes some shortcakes.
She uses 25 m*l* of milk.

(a) How many shortcakes does Liz make?

....
(2)

Robert has   500 g of sugar
              1000 g of butter
              1000 g of flour
              500 m*l* of milk

(b) Work out the greatest number of shortcakes Robert can make.

....
(2)

(4 marks)

5. Here is a list of ingredients for making 12 small cakes.

Ingredients for 12 small cakes
180 g margarine
180 g sugar
200 g plain flour
1 teaspoon baking powder
2 eggs

Joe is going to make 24 of the small cakes.

(a) Work out how much margarine he needs.

(2)

.... g

Sharon is going to make 18 of the small cakes.

(b) Work out how much flour she needs.

(2)

.... g

(Total for Question 4 = 4 marks)

*6.   This is a list of ingredients for making a pear & almond crumble for 4 people.

| Ingredients for 4 people: |
| 80 g plain flour |
| 60 g ground almonds |
| 90 g soft brown sugar |
| 60 g butter |
| 4 ripe pears |

Jessica wants to make a pear & almond crumble for 10 people.

Here is a list of the amount of each ingredient Jessica has in her cupboard.

     250 g plain flour
     100 g ground almonds
     200g soft brown sugar
     150 g butter
     8 ripe pears

Work out which ingredients Jessica needs to buy more of.
You must show all of your working.

(4 marks)

*7.   225 grams of flour are needed to make 9 cakes.

Marian wants to make 20 of these cakes.
She has 475 grams of flour.

Does Marian have enough flour to make 20 cakes?
You must show all your working.

(3 marks)

30 Edexcel GCSE
Mathematics (Linear) – 1MA0

USING A CASLCULATOR

Materials required for examination
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers
Nil

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Advice

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Keep an eye on the time.
Try to answer every question.
Check your answers if you have time at the end.

1. Use your calculator to work out

$$(2.3 + 1.8)^2 \times 1.07$$

Write down all the figures on your calculator display.

....
(2 marks)

2. (a) Work out $\dfrac{4.6 + 3.85}{3.2^2 - 6.51}$

Write down all the numbers on your calculator display.

....
(3 marks)

3. Use your calculator to work out

$$\frac{13.7 + 5.86}{2.54 \times 3.17}$$

Write down all the figures on your calculator display.
You must give your answer as a decimal.

....
(2 marks)

4. Use a calculator to work out

$$\frac{\sqrt{20.4}}{6.2 \times 0.48}$$

Write down all the figures on your calculator display.
Give your answer as a decimal.

....
(2 marks)

5. (a) Use your calculator to work out

$$\frac{\sqrt{21.5}}{5.8 - 2.36}$$

Write down all the figures on your calculator display.

....

(2)

(b) Write down your answer to part (a) correct to 2 decimal places.

....

(1)

(3 marks)

---

6. (a) Use your calculator to work out the value of $\dfrac{45.6 \times 123}{0.34^2 - 0.28^2}$

Write down all the figures on your calculator display.

(2)

....

(b) Write your answer to part (a) correct to 3 significant figures.

(1)

....

(3 marks)

7. (a) Use your calculator to work out $\dfrac{\sqrt{2.5^2 + 3.75}}{3.9 - 1.7}$

Write down all the figures on your calculator display.
You must give your answer as a decimal.

....

(3)

(b) Write your answer to part (a) correct to 2 decimal places.

....

(1)

(4 marks)

---

8. (a) Use your calculator to work out $\dfrac{38.5 \times 14.2}{18.4 - 5.9}$.

Write down all the figures on your calculator display.
You must give your answer as a decimal.

....

(2)

(b) Write your answer to part (a) correct to 1 significant figure.

....

(1)

(3 marks)

---

9. Use your calculator to work out the value of $\dfrac{6.27 \times 4.52}{4.81 + 9.63}$

(a) Write down all the figures on your calculator display.

....

(2)

(b) Write your answer to part (a) to an appropriate degree of accuracy.

....

(1)

(3 marks)

---

10. Use your calculator to work out the value of $\dfrac{8.95 + \sqrt{7.84}}{2.03 \times 1.49}$

(a) Write down all the figures on your calculator display.

....

(2)

(b) Write down your answer to part (a) correct to 3 significant figures.

....

(1)

(3 marks)

11. (a) Use your calculator to work out $\dfrac{\sqrt{19.2 + 2.6^2}}{2.7 \times 1.5}$

Write down all the figures on your calculator display.

....

(2)

(b) Write your answer to part (a) correct to 3 significant figures.

....

(1)

(3 marks)

12. Calculate the value of $\sqrt{\dfrac{\tan 60° + 1}{\tan 60° - 1}}$

Write down all the figures on your calculator display.
You must give your answer as a decimal.

....

(3 marks)

13. Use your calculator to work out

$$\sqrt{\frac{920 - 170 \tan 65°}{0.012 + 0.034}}$$

(a) Write down all the figures on your calculator display.
You must write your answer as a decimal.

....
(2)

(b) Give your answer to part (a) correct to 3 significant figures.

....
(1)
(3 marks)