Name: _____

11 Plus Maths Sample Paper Envision

Envision Tuition

MATHEMATICS TUTORS

Date:

Time: 60 minutes

Total marks available: 100

Total marks achieved: _____

Questions

Q1.

There will be 30 people at a party.
There have to be enough chairs and tables for all 30 people.

There will be 4 chairs at each table. What is the least number of tables needed?

.....

(Total for Question is 2 marks)

Q2.

(a) Write the number **7378** to the nearest hundred.

.....

(1)

(b) Write the number **6402** in words.

.....

(1)

(c) Work out 54 × 1000

.....

(1)

(d) Work out $\frac{1}{4}$ of 28 kg.

..... kg

(1)

(e) Work out 9 + 12 ÷ 3

.....

(1)

(Total for question = 5 marks)

Q3.

(a) Work out $\frac{2}{5} \times \frac{3}{8}$
Give your answer in its simplest form.

.....

(2)

(b) Work out $\frac{3}{8} + \frac{1}{4}$

.....

(2)

(Total for Question is 4 marks)

Q4.

(a) Write these numbers in order of size.
Start with the smallest number.

0.401 0.46 0.37 0.439

.....

(1)

(b) Write these numbers in order of size.
Start with the smallest number.

75% $\frac{7}{8}$ 0.25 $\frac{1}{2}$ $\frac{2}{3}$

.....

(2)

(Total for question = 3 marks)

Q5.

(a) Work out 90 ÷ 10

.....

(1)

(b) Write these numbers in order of size.
Start with the smallest number.

2.8 4.71 0.6 13.4

.....

(1)

(c) Write $\frac{7}{10}$ as a decimal.

.....

(1)

(Total for Question is 3 marks)

Q6.

(a) Write 8 45 pm as a 24-hour clock time.

.....

(1)

Seeta did a puzzle in 3 minutes 45 seconds.
Ninal did the same puzzle in 7 minutes 28 seconds.

Seeta says,

'I did the puzzle in less than half the time Ninal did the puzzle.'

***** (b) Is Seeta right?
You must show all your working.

(3)

(Total for Question is 4 marks)

Q7.

There is enough space for 80 boxes of cornflakes in a stockroom.

On Monday there are 65 boxes of cornflakes in the stockroom.
On Tuesday 17 boxes of cornflakes are taken out of the stockroom.
On Wednesday 29 boxes of cornflakes are put into the stockroom.

Work out how many more boxes of cornflakes can now be put into the stockroom.

... .

(Total for Question is 3 marks)

Q8.

Jessica thinks of a number.

She multiplies the number by 3

She then subtracts 7

Her answer is 5

What number did Jessica think of ?

.....

(Total for Question is 2 marks)

Q9.

Here are the first four terms of a number sequence.

4 7 10 13

(a) (i) What is the next term in the sequence?

.....

(ii) Explain how you found your answer.

.....

(2)

(b) What is the 8th term in the sequence?

.....

(1)

Alexi says 34 is in the sequence.

(c) Is Alexi correct?

. . . . . .

You must give a reason for your answer.

.....

(1)

(Total for Question is 4 marks)

Q10.

Here are four digits.

6 3 5 9

(a) Write down the largest three-digit number you can make using three of these digits.
You may only use a digit once.

.....

(1)

Here are the four digits again.

6 3 5 9

(b) Write down the three-digit number, whose value is closest to 600, that you can make using three of these digits.
You may only use a digit once.

.....

(1)

(Total for question = 2 marks)

Q11.

John buys some boxes of pencils and some packets of pens for people to use at a conference.

There are 40 pencils in a box.
There are 15 pens in a packet.

John gives one pencil and one pen to each person at the conference.
He has no pencils left.
He has no pens left.

How many boxes of pencils and how many packets of pens did John buy?

..... boxes of pencils

..... packets of pens

(Total for question = 3 marks)

Q12.

Trams leave Piccadilly

to Eccles every 9 minutes
to Didsbury every 12 minutes

A tram to Eccles and a tram to Didsbury both leave Piccadilly at 9 am.

At what time will a tram to Eccles and a tram to Didsbury next leave Piccadilly at the same time?

.....

(Total for Question is 3 marks)

Q13.

Jodie has 40 eggs.

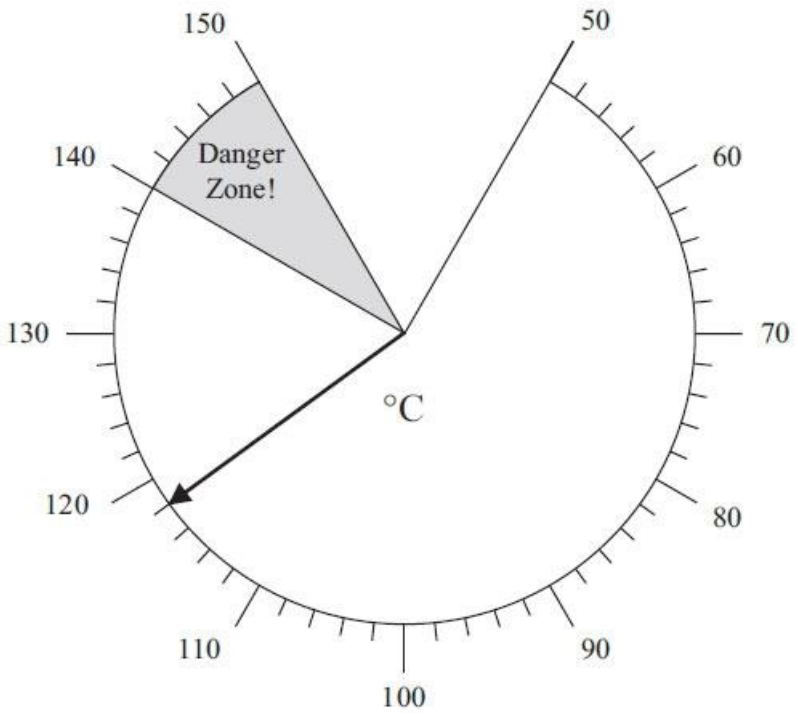
She wants to put all the eggs into boxes.
She can put 6 eggs into each box.

Find the smallest number of boxes Jodie needs.
You must show your working.

.....

(Total for question = 2 marks)

Q14.



The diagram shows a temperature gauge.

How many degrees does the temperature have to rise to get to the danger zone?

.....

(Total for Question is 2 marks)

Q15.

(a) Work out 20 – 12 ÷ 4

. . . . . .

(1)

(b) Put brackets in to make this a true statement.

5 + 3 × 2 – 1 = 15

(1)

(c) Work out –8 × –3

. . . . . .

(1)

(d) Work out $\frac{7}{10} + \frac{1}{5}$

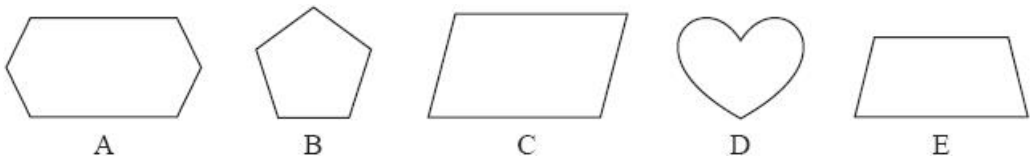
. . . . . .

(2)

(Total for Question is 5 marks)

Q16.

Here are five shapes.



Shape E is a quadrilateral.

(a) Write down the mathematical name of this quadrilateral.

.....

(1)

One of these shapes has exactly **two** lines of symmetry.

(b) Write down the letter of this shape.

.....

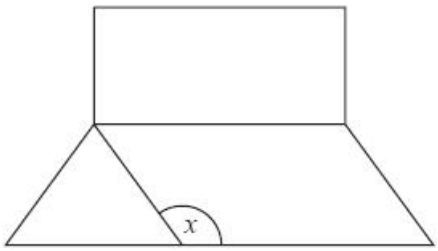
(1)

(c) Write down the order of rotational symmetry of shape B.

.....

(1)

The diagram below shows a rectangle, a parallelogram and a triangle.



(d) Mark with arrows (>>) a pair of parallel lines.

(1)

(e) What type of angle is the angle marked *x*?

.....

(1)

(Total for question = 5 marks)

Q17.

Work out 342 × 24

.....

(Total for Question is 3 marks)

Q18.
Here is an isosceles triangle.

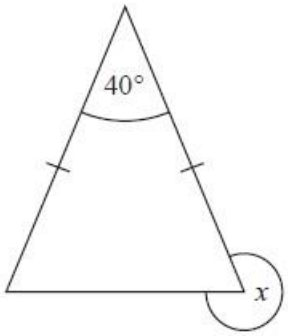


Diagram **NOT** accurately drawn

Work out the size of the angle marked *x*.

..... °

(Total for Question is 3 marks)

Q19.

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

. . . . . .

(1)

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

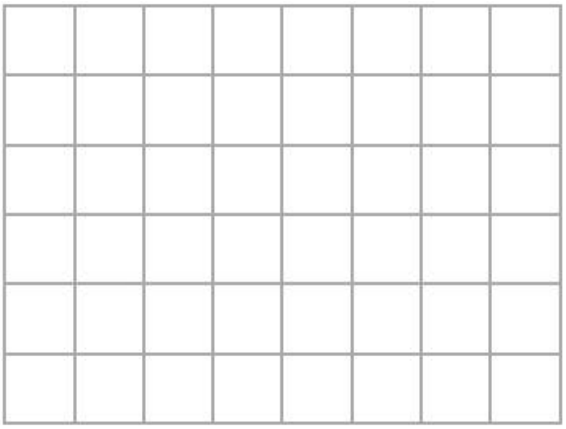
. . . . . .

(2)

(Total for Question is 3 marks)

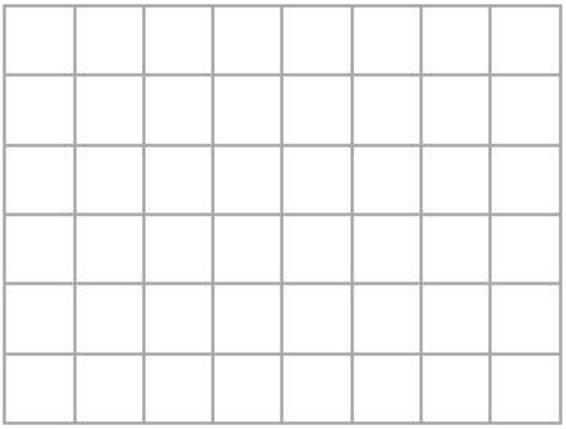
Q20.

(a) On the centimetre grid, draw a right-angled triangle.



(1)

(b) On the centimetre grid, draw a rectangle with an area of 12 cm^2.

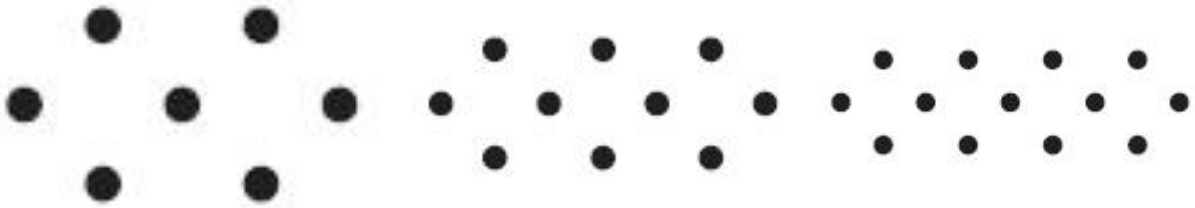


(2)

(Total for Question is 3 marks)

Q21.

Here are some patterns made from dots.



Pattern number 1 Pattern number 2 Pattern number 3

(a) Draw Pattern number 4 in the space below.

(1)

(b) How many dots are needed for Pattern number 15?

.....

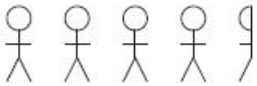
(2)

(Total for Question is 3 marks)

Q22.

Heidi asks all the children in her class to tell her the sport they like best.

The pictogram shows how many children like swimming best, like netball best and like football best.

Swimming	
Netball	
Football	
Cricket	

Key:  represents 2 children

8 children like cricket best.

(a) Use this information to complete the pictogram.

(1)

(b) Work out the total number of children in Heidi's class.

.....

(2)

(Total for question = 3 marks)

Q23.

Here is a clock in a school.

(a) (i) School starts 15 minutes earlier than the time shown on the clock.

What time does school start?

.....

(ii) The first lesson ends 45 minutes after the time shown on the clock.

What time does the first lesson end?

.....

(2)

(b) School finishes at 3.20 pm.

Write 3.20 pm using the 24-hour clock.

.....

(1)

(Total for Question is 3 marks)

Q24.

The table shows some temperatures at midnight in Canada.

Town	Temperature at midnight
Banff	2°C
Norquay	–4°C
Revelstoke	–6°C
Calgary	5°C

(a) What is the difference in temperatures
(i) between Norquay and Revelstoke,

. . . . . °C

(ii) between Calgary and Revelstoke?

. . . . . °C

(2)

In Revelstoke, the temperature drops by 11°C from midnight to 6am.

(b) What is the temperature in Revelstoke at 6am?

. . . . . °C

(1)

(Total for Question is 3 marks)

Q25.

There are 120 people at a party.

$\frac{1}{3}$ of the people leave the party.

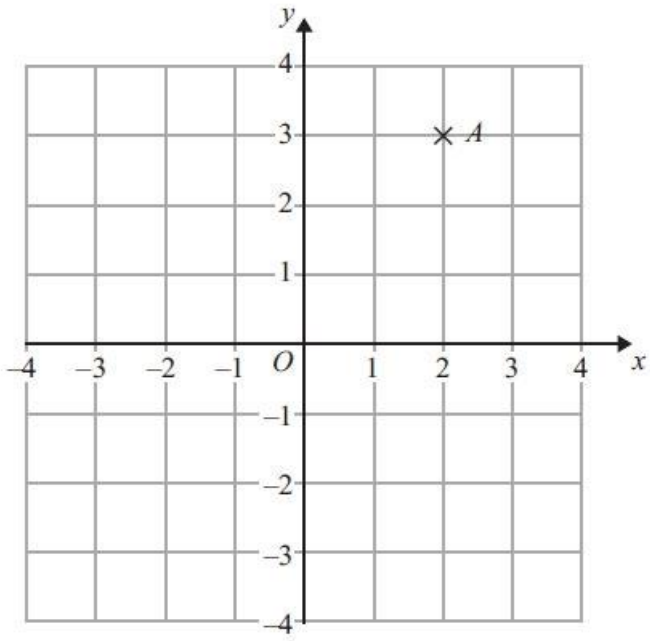
Work out the number of people still at the party.

.....

(Total for question = 3 marks)

Q26.

Here is a grid.



(a) Write down the coordinates of the point *A*.

.....

(1)

(b) On the grid, mark with a cross (×), the point with coordinates (−3, 3).
Label this point *B*.

(1)

(Total for Question is 2 marks)

Q27.

(a) Write the number **six thousand and thirty seven** in figures.

.....

(1)

(b) Write the number 8377 correct to the nearest ten.

.....

(1)

(c) Write these numbers in order of size.
Start with the smallest number.

43 37 19 26 21

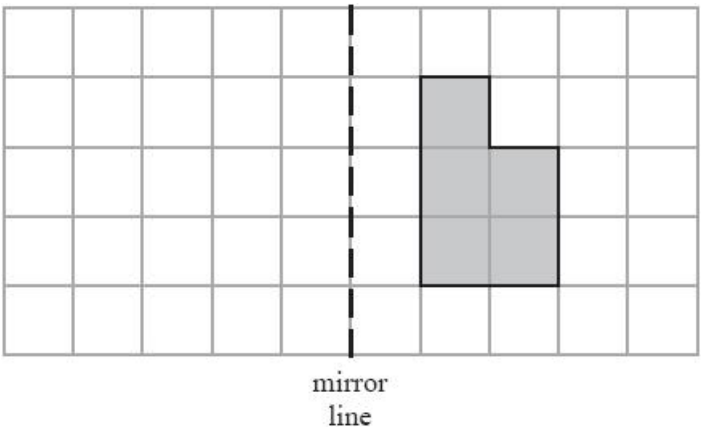
.....

(1)

(Total for question = 3 marks)

Q28.

Here is a shaded shape on a grid of centimetre squares.



(a) Find the perimeter of the shaded shape.

..... cm

(1)

(b) Reflect the shaded shape in the mirror line.

(2)

(Total for question = 3 marks)

Q29.

Penelope is going to cook a chicken.

She uses this rule to find the cooking time.

cooking time = 20 minutes for each 0.5 kg + 10 minutes

The chicken has a weight of 2 kg.

Penelope wants to finish cooking the chicken at 12 30 pm.

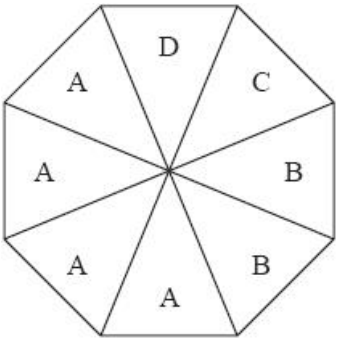
What time should Penelope start cooking the chicken?

.....

(Total for question = 4 marks)

Q30.

Zak has a fair 8-sided spinner for a game.



Zak is going to spin the spinner once.
The spinner will land on A or on B or on C or on D.

impossible	unlikely	evens	likely	certain

(a) From the list above, write down the word that best describes the likelihood

(i) that the spinner will land on C,

.....

(ii) that the spinner will land on F,

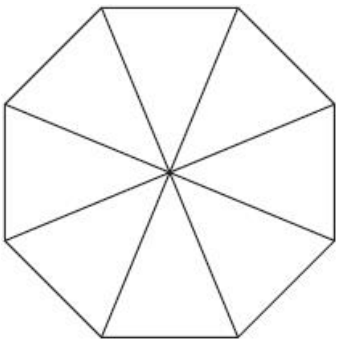
.....

(iii) that the spinner will land on A.

.....

(3)

Jill is making a different fair 8-sided spinner.
She uses the letters J, K, L and M.



The probability that the spinner will land on J
is the same as the probability that it will land on K.

The probability that the spinner will land on L
is twice the probability that it will land on M.

(b) Write the letters on the spinner. **(2)** **(Total for question = 5 marks)**

Q31.

Mr Morris is going to take his family to the zoo.

Ticket prices (per person)	
Adult	£16.50
Child (3 – 14)	£13.50
Child (under 3)	free

Mr Morris wants to buy tickets for two adults and two children aged 2 and 4

(a) How much in total will the tickets cost?

£. . . . . .

(2)

Mr Morris pays with three £20 notes.

(b) How much change should he get?

£. . . . . .

(2)

(Total for Question is 4 marks)

Mark Scheme

Q1.

PAPER: 5MB2F 01					
Question		Working	Answer	Mark	Notes
			8	2	M1 for 30 ÷ 4 or at least 3 multiples of 4 shown A1 cao SC B1 7 on answer line, no working shown

Q2.

Question		Working	Answer	Mark	Notes
	(a)		7400	1	B1 cao
	(b)		6402 in words	1	B1 for eg six thousand four hundred and two
	(c)		54 000	1	B1 cao
	(d)		7	1	B1 cao
	(e)		13	1	B1 cao

Q3.

Question		Working	Answer	Mark	Notes
	(a)	$\frac{2}{5} \times \frac{3}{8} = \frac{6}{40}$	$\frac{3}{20}$	2	M1 for multiplying the numerators and the denominators A1 for $\frac{3}{20}$ or 0.15 cao
	(b)	$\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$ | | 1 | 4 | | 3 | | 12 | | 8 | 8 | 32 |	$\frac{5}{8}$	2	M1 for a suitable common denominator (multiple of 8) with one fraction out of two (not $\frac{3}{8}$) correct or 0.25 + 0.375 or all cells correct if cell method used A1 for $\frac{5}{8}$ or equivalent fraction, accept 0.625

Q4.

5MB2F_01 November 2015					
Question		Working	Answer	Mark	Notes
	(a)		0.37, 0.401, 0.439, 0.46	1	B1 cao
	(b)	$\frac{1}{4}, \frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{7}{8}$ 0.75, 0.875, 0.25, 0.5, 0.66	0.25, $\frac{1}{2}, \frac{2}{3}$, 75%, $\frac{7}{8}$	2	M1 for attempt to convert all to same form or one error in ordered listing A1 for correct order (Accept 0.67 or 0.66 for $\frac{2}{3}$) (SC: B1 for order reversed)

Q5.

Question	Working	Answer	Mark	Notes
(a)		9	1	B1 cao
(b)		0.6,2.8,4.71,13.4	1	B1 cao
(c)		0.7	1	B1 cao

Q6.

		Working	Answer	Mark	Notes
*	(a)		20 45	1	B1
	(b)	Example of figures for comparison 7min 30 sec with 7 min 28 secs 3 mins 43 secs with 3mins 45 secs 224 secs with 225 secs 3mins 44 secs with 3 mins 45 secs	No	3	M1 for doubling Seeta's time or halving Ninal's time or finding the difference between the two times Eg 3 min 45 sec × 2 or (7m 28s) ÷ 2 or 7m 28s-3min 45 secs M1 for a complete method to convert their time(s) to common units with the units stated C1 for No and **correct** figures compared (could be in secs or mins and secs)

Q7.

		Working	Answer	Mark	Notes
		Eg. 65 − 17 + 29 = 77 80 − "77"	3	3	M1 for 77 **or** a correct start to the process using at least two of the given figures M1 for a complete correct method A1 cao

Q8.

PAPER: 1MA0_1F					
Question		Working	Answer	Mark	Notes
			4	2	M1 for correct order of operations +7 then ÷3 A1 cao OR M1 for forming the equation $3x - 7 = 5$ and showing intention to add 7 to both sides or divide each term by 3 as a first step A1 cao NB Embedded solutions get M1 mark provided the equation or working is complete.

Q9.

Question	Working	Answer	Mark	Notes
(a)(i)		16	1	B1 cao
(ii)		Reason	1	B1 add 3 or 3 ×5+1or 3n+1
(b)		25	1	B1 cao
(c)		Yes with reason	1	B1 for "Yes" and "keep adding 3" oe 3×11+1 or 11th term or multiple of 3 plus 1

Q10.

5MB2F November 2016					
Question	Working	Answer	Mark	Notes	Type
(a)		965	1	B1 cao	C
(b)		596	1	B1 cao	C

Q11.

PAPER: 1MA0_1F				
Question	Working	Answer	Mark	Notes
	40, 80, 120 15, 30, 45, 60, 75, 90, 105, 120 40 = 2 × 2 × 2 × 5 15 = 3 × 5	3 and 8 or any multiple of 3, 8	3	M1 for multiples of both 40 and 15 (at least 2 of each shown but condone errors if intention is clear) or 40 × 15 M1 (dep on M1) for a complete method to find a common multiple of 40 and 15, eg sight of 120, 240, 600, condoning one arithmetic error in any lists of multiples shown A1 for 3, 8 or any multiple of 3, 8 **OR** M1 for factors 2,2,2,5 and factors 3,5 M1 (dep on M1) for a complete method to find a common multiple of 40 and 15 A1 for 3, 8 or any multiple of 3, 8

Q12.

		Working	Answer	Mark	Notes
			09 36	3	M1 for listing 9, 18, 27, 36, 45, ... (at least 3 correct multiples with at most one incorrect) M1 for listing 12, 24, 36, 48, ... (at least 3 correct multiples with at most one incorrect) A1 for 09 36 or 9 36(am) OR M1 for listing 9.09 9.18 9.27 9.36 ... (at least 3 correct times with at most one incorrect) M1 for listing 9.12 9.24 9.36 ... (at least 3 correct times with at most one incorrect) A1 for 09 36 or 9 36(am) OR M1 for 9 = 3 × 3 **or** 12 = 2 × 2 × 3 (could be in a factor tree) M1 for 9 = 3 × 3 **and** 12 = 2 × 2 × 3 (could be in a factor tree) A1 for 09 36 or 9 36(am) SC B2 9 36pm or (after) 36 (minutes) on the answer line

Q13.

5MB2F/01 June 2015				
Question	**Working**	**Answer**	**Mark**	**Notes**
		7	2	M1 for 40 ÷ 6 (=6.66…) OR 6 × 6 (=36) oe or 6 × 7 (=42) oe OR 40, 34, 28… oe A1 cao

Q14.

		Working	Answer	Mark	Notes
			22	2	M1 for 140 – 118 (=22) or 10 + 10 + 2 (=22) or 11 × 2 (=22) A1 cao (SC B1 for 118 seen)

Q15.

Question	Working	Answer	Mark	Notes
(a)		17	1	B1 cao
(b)		(5+3)×2+1	1	B1 cao
(c)		24	1	B1 for 24 or + 24
(d)	$\frac{7}{10} + \frac{1}{5} = \frac{7}{10} + \frac{2}{10}$ | | 1 | 5 | | 7 | | 35 | | 10 | 10 | 50 |	$\frac{9}{10}$	2	M1 for a suitable common denominator (multiple of 10) with one fraction out of two (not $\frac{7}{10}$) correct or 0.7 + 0.2 or all cells correct if cell method used A1 for $\frac{9}{10}$oe, accept 0.9

Q16.

Question	Working	Answer	Mark	Notes
(a)		trapezium	1	B1 cao
(b)		A	1	B1 cao
(c)		5	1	B1 cao
(d)		parallel lines marked	1	B1 for correct parallel lines marked with arrows
(e)		obtuse	1	B1 cao

Q17.

Question	Working	Answer	Mark	Notes
	342 ×24 = 6840 + 1368 = 8208 24 ×342 = 7200 + 960 + 48 = 8208 3 4 2 0 6 | 0 8 | 0 4 | 2 1 2 | 1 6 | 0 8 | 4 8 2 0 8 300 40 2 6000 800 40 | 20 1200 160 8 | 4 6000+800+40+1200+160+8=8208	8208	3	M1 for a complete method with relative place value correct. Condone 1 multiplication error, addition not necessary. M1 (dep) for addition of all the appropriate elements of the calculation. A1 cao M1 for a complete grid with not more than 1 multiplication error, addition not necessary (inside numbers) M1 (dep) for addition of all the appropriate elements of the calculation (eg outside numbers) A1 cao M1 for sight of a complete partitioning method, condone 1 multiplication error, addition not necessary. M1 (dep) for addition of all the appropriate elements of the calculation. A1 cao

Q18.

PAPER: 5MB2F_01					
Question		Working	Answer	Mark	Notes
			290	3	M1 for (180 – 40) ÷ 2 M1 for 360 – '70' A1 cao

Q19.

Question		Working	Answer	Mark	Notes
	(a)		9	1	B1 cao
	(b)		33	2	M1 for 5 × 5 **or** 25 seen in the working **or** 2 × 2 × 2 **or** 8 seen in the working A1 cao

Q20.

Paper: 5MB2F_01					
Question		Working	Answer	Mark	Notes
	(a)		Right angled triangle	1	B1 right angled triangle drawn
	(b)		rectangle area 12 cm^2	2	M1 for a rectangle drawn of any dimension, or a shape of area 12cm^2 A1 rectangle of area 12 cm^2

Q21.

Question	Working	Answer	Mark	Notes
(a)		Pattern	1	B1
(b)	7,10,13,16,19,22,25,28,31,34,37,40 43,46,49; or 3*n*+4	49	2	M1 for method eg counting up in 3s (to at least pattern number 6; allow errors if intention is clear), diagram extension (ft), use of 3*n*+4 (could be shown as part of a valid calculation eg 15×3) A1 49

Q22.

PAPER: 1MA0/1F				
Question	Working	Answer	Mark	Notes
(a)			1	B1 for 4 people unambiguously drawn for Cricket
(b)		27	2	M1 ft from their pictogram for 4 + 6 + 9 + 8 or 2 × (2 + 3 + 4.5 + 4) A1 cao

Q23.

PAPER: 1MA0_1F					
Question		Working	Answer	Mark	Notes
	(a)(i)		8 40 oe	2	B1 for 8 40 oe
			9 40 oe		B1 for 9 40 oe
	(ii)				
	(b)		15 20	1	B1 cao

Q24.

Question	Working	Answer	Mark	Notes
(a)(i)		(-) 2	1	B1 cao
(ii)		(-) 11	1	B1 cao
(b)		-17	1	B1 cao

Q25.

5MB2F_01 November 2015					
Question		Working	Answer	Mark	Notes
			80	3	M1 for 120 ÷ 3 (=40) M1 for 120 − "40" A1 cao OR M1 for 120 ÷ 3 (=40) M1 for "40" × 2 A1 cao

Q26.

		Working	Answer	Mark	Notes
	(a)		(2,3)	1	B1 cao
	(b)		(−3, 3) plotted	1	B1 cao

Q27.

Question	Working	Answer	Mark	Notes
(a)		6037	1	B1 cao
(b)		8380	1	B1 cao
(c)		19,21,26,37,43	1	B1 cao

Q28.

Question	Working	Answer	Mark	Notes
(a)		10	1	B1 cao
(b)		reflected shape	2	M1 for shape reflected but in the wrong position A1 for correct reflection

Q29.

5MB2F/01 June 2015				
Question	**Working**	**Answer**	**Mark**	**Notes**
		11(am)	4	M1 for 2 ÷ 0.5 oe (=4) or 80 (minutes) M1 for '4' × 20 + 10 oe (=90 minutes) M1 for 12 30 – '90 (minutes)' oe A1 for 11(am) oe SC B2 for 10 30(am)

Q30.

Question	Working	Answer	Mark	Notes
(a)(i)		unlikely	3	B1 cao
(ii)		impossible		B1 cao
(iii)		evens		B1 cao
(b)		J K L L L L M M	2	M1 for number of Js = number of Ks OR number of Ls = twice number of Ms A1 cao

Q31.

Question	Working	Answer	Mark	Notes
(a)	2×16.50 +13.50	46.50	2	M1 for 2 × 16.50 + 13.50 A1 cao
(b)	3× 20−"46.50"	13.50	2	M1 for 3× 20−"46.50" A1 ft