

Name: \_\_\_\_\_

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# ENVISION TUITION 11 PLUS PAPER

## ENVISION TUITION

Date: \_\_\_\_\_

**Time:** 1 hour

**Total marks available:** 62

**Total marks achieved:** \_\_\_\_\_

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11 PLUS PAPER MADE BY ENVISION TUITION.

**ENVISION TUITION - NIC GARCIA**

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**Questions**

**Q1.**

Write 4.666 correct to the nearest whole number.

.....

**(Total for question = 1 mark)**

**Q2.**

Write 180 minutes in hours.

..... hours

**(Total for question = 1 mark)**

**Q3.**

Write 0.8 as a percentage.

..... %

**(Total for question = 1 mark)**

**Q4.**

Write  $\frac{4}{5}$  as a percentage.

..... %

**(Total for question = 1 mark)**

**Q5.**

How many minutes are there in  $3\frac{1}{4}$  hours?

..... minutes

**(Total for question is 1 mark)**

**Q6.**

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

0.4   0.02   0.37   0.152   0.2

.....

**(Total for question = 1 mark)**

**Q7.**

Write 0.6 as a percentage.

..... %

**(Total for question = 1 mark)**

**Q8.**

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

8   -7   -10   1   0   -2

.....

**(Total for question = 1 mark)**

**Q9.**

Work out  $20 \div (3 + 2)$

.....

**(Total for question = 1 mark)**

**Q10.**

Find 10% of £320

£ .....

(Total for question = 1 mark)

**Q11.**

Here is a list of four fractions.

$$\frac{4}{16}$$

$$\frac{2}{8}$$

$$\frac{15}{60}$$

$$\frac{3}{9}$$

One of these fractions is **not** equivalent to  $\frac{1}{4}$

Write down this fraction.

.....

(Total for question = 1 mark)

**Q12.**

Write down the first even multiple of 7

.....

(Total for question = 1 mark)

**Q13.**

Here are the first four terms of a number sequence.

2

5

11

23

The rule to continue this sequence is

multiply the previous term by 2 and then add 1

Work out the 5th term of this sequence.

.....

(Total for question = 1 mark)

**Q14.**

Work out  $10 \times (3 + 5)$

.....

(Total for question = 1 mark)

**Q15.**

Write  $\frac{9}{100}$  as a decimal.

.....

(Total for question = 1 mark)

**Q16.**

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

4      -4      1      0      -2

.....

(Total for question = 1 mark)

**Q17.**

Write down the value of the 7 in the number 1074

.....

**(Total for question = 1 mark)**

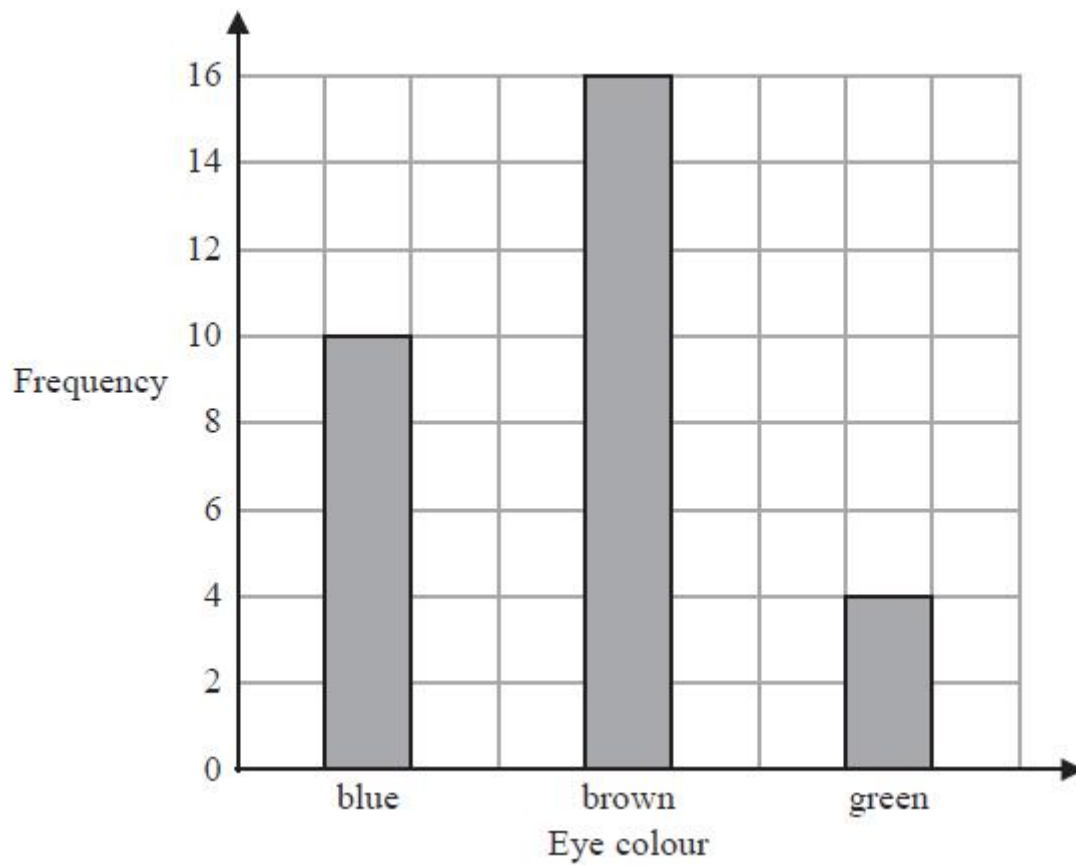
**Q18.**

Grace recorded the eye colour of each of the students in her class.

The frequency table below shows her results.

Eye colour	Frequency
blue	10
brown	15
green	4

Grace then drew the bar chart below for this information.



Write down one thing that is wrong with this bar chart.

.....

.....

(Total for question = 1 mark)

**Q19.**

(a) Solve  $3x + 7 = 1$

$x =$  .....

(2)

(b)  $f = 6$   
 $g = 5$

Work out the value of  $3f - 2g$



.....  
(2)

**(Total for question = 4 marks)**

**Q20.**

$$v^2 = u^2 + 2as$$

$$u = 12 \quad a = -3 \quad s = 18$$

(a) Work out a value of  $v$ .

.....  
(2)

(b) Make  $s$  the subject of  $v^2 = u^2 + 2as$

.....  
(2)

**(Total for question = 4 marks)**

**Q21.**

Here are five cards.



There is a whole number from 0 to 9 on each card.

The number on the last card is hidden.

The range of the five numbers is 6

(a) Write down the whole number on the last card.

.....  
(1)  
Here is a different set of five cards.



There is a different whole number from 0 to 9 on each card.

The number on the last card is hidden.

The median of the numbers on the five cards is 4

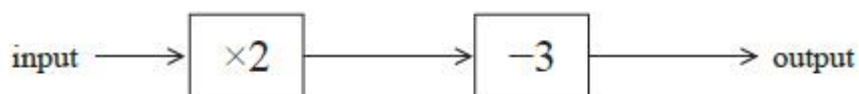
(b) Which whole numbers could be on the last card?

.....  
(2)

**(Total for Question is 3 marks)**

**Q22.**

Here is a number machine.



(a) What is the **output** when the input is 4?

.....  
(1)

(b) What is the **input** when the output is 11?

.....  
(2)

(c) Show that there is an input for the machine for which the output is the same as the input.

(2)

**(Total for question = 5 marks)**

**Q23.**

There are 120 bricks in a box.  
The bricks are red or blue or green.

$\frac{1}{3}$  of the bricks are red.

$\frac{1}{4}$  of the bricks are blue.

Work out the number of green bricks in the box.

.....  
**(Total for Question is 4 marks)**

**Q24.**

A ticket for a seat at a school play costs £2.95

There are 21 rows of seats.  
There are 39 seats in each row.

The school will sell all the tickets.

Work out an estimate for the total money the school will get.

£ .....

**(Total for Question is 3 marks)**

**Q25.**

Sally uses her van to deliver boxes to shops.  
She can put a maximum weight of 450 kg in the van.

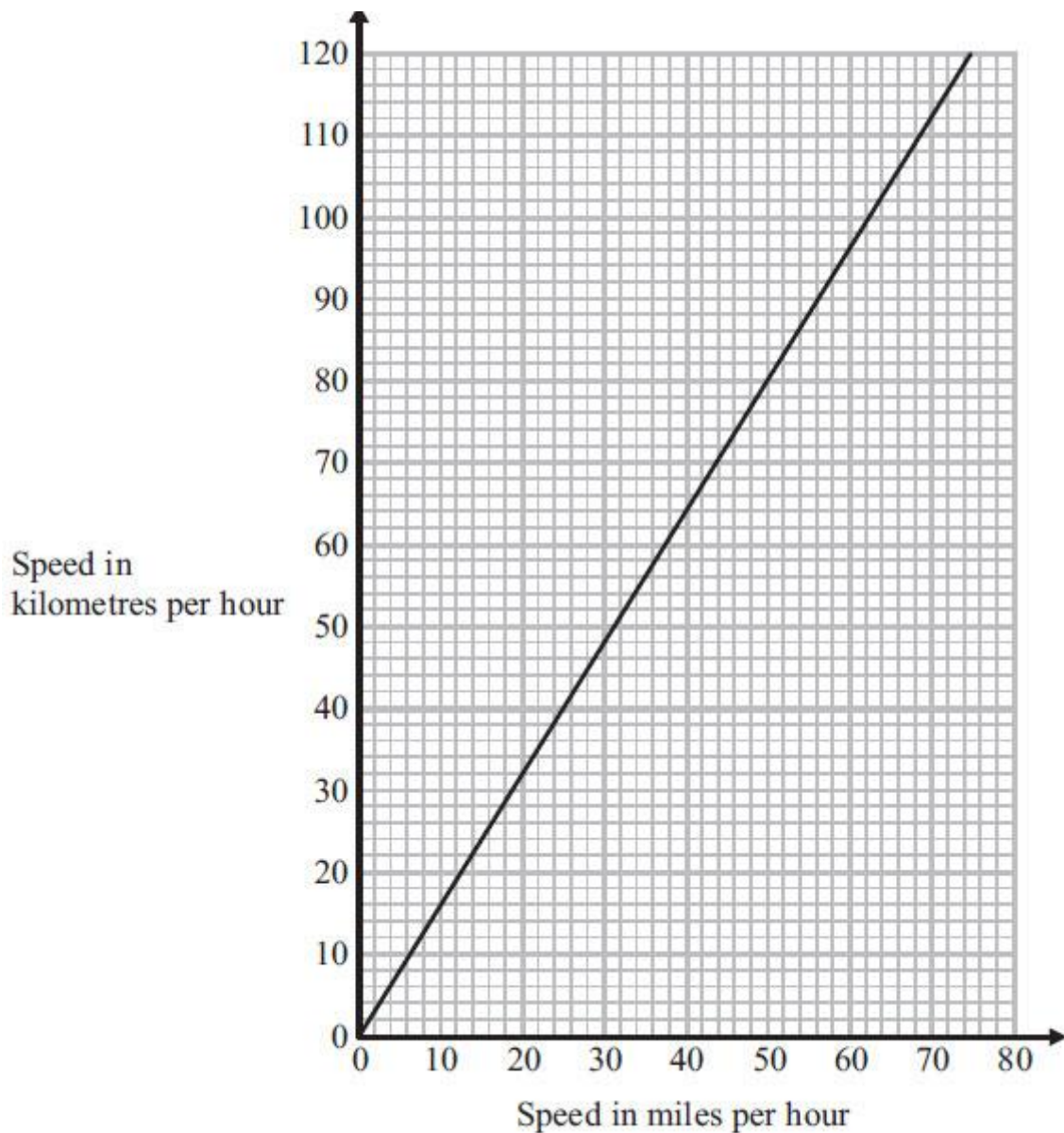
Sally has to deliver 50 boxes to a shop.  
Each box has a weight of 30 kg.

Work out the least number of times Sally has to drive to the shop to deliver all 50 boxes.  
You must show all your working.

DO NOT COPY

.....  
(Total for Question is 3 marks)

**Q26.** Here is a conversion graph.



You can use the graph to change between speed in miles per hour and speed in kilometres per hour.

(a) Change 30 miles per hour to kilometres per hour.

.....

(1)

(b) Change 72 kilometres per hour to miles per hour.

.....

(1)

Jack is in France.

He has to drive 180 miles to the ferry.

He has 3 hours to get to the ferry.

In France, Jack must not drive at a speed greater than 90 kilometres per hour.

\* (c) Can Jack drive to the ferry in 3 hours?

You must show all your working.

(3)

**(Total for Question is 5 marks)**

**Q27.**

A shop sells milk in 1 pint bottles and in 2 pint bottles.

Each 1 pint bottle of milk costs 52p.

Each 2 pint bottle of milk costs 93p.

Martin has **no** milk.

He assumes that he uses, on average,  $\frac{3}{4}$  of a pint of milk each day.

Martin wants to buy enough milk to last for 7 days.

(a) Work out the smallest amount of money Martin needs to spend on milk.  
You must show all your working.

£.....  
(3)

Martin actually uses more than  $\frac{3}{4}$  of a pint of milk each day.

(b) Explain how this might affect the amount of money he needs to spend on milk.

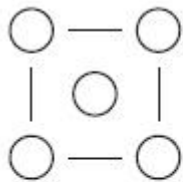
.....  
.....  
.....  
.....

(1)

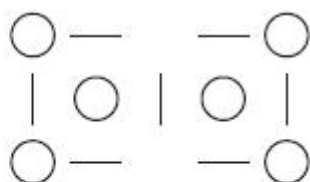
**(Total for question is 4 marks)**

**Q28.**

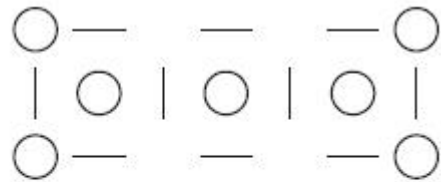
Here are the first three patterns in a sequence.  
Each pattern is made from lines and circles.



pattern  
number 1

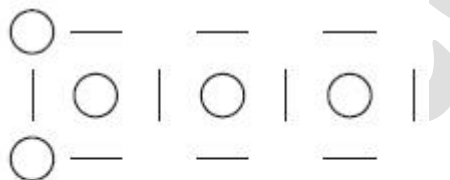


pattern  
number 2



pattern  
number 3

(a) In the space below, complete pattern number 4



pattern  
number 4

(1)

(b) Complete the table.

<b>Pattern number</b>	1	2	3	4	5
<b>Number of lines</b>	4	7	10		

(1)

(c) Find the number of **lines** in pattern number 12

.....

(1)

(d) Find the number of **circles** in pattern number 20



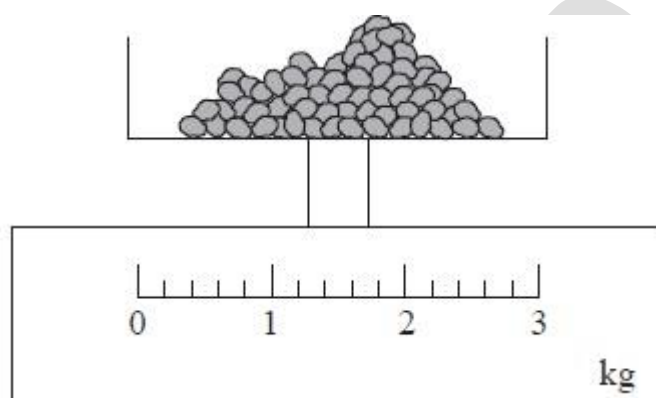
.....  
(1)

(Total for question = 4 marks)

**Q29.**

Jordan wants to make two dried fruit puddings.

He weighs some dried fruit.



The dried fruit weighs 0.8 kg.

(a) On the scale, show with an arrow ( $\uparrow$ ), 0.8 kg.

(1)

Jordan needs  $\frac{3}{4}$  kg of dried fruit to make one pudding.

(b) Work out how much more dried fruit Jordan needs to make two puddings.

Give your answer in grams.

..... grams

(4)

(Total for Question is 5 marks)

### Mark Scheme

Q1.

Question	Answer	Mark	Mark scheme	Additional guidance
	5	B1	cao	

Q2.

Question	Answer	Mark	Mark scheme	Additional guidance
	3	B1	cao	

Q3.

Question	Working	Answer	Notes
		80	B1

Q4.

Question	Working	Answer	Mark	Notes
		80	B1	cao

Q5.

Paper 1MA1: 1F			
Question	Working	Answer	Notes
		195	B1 cao

Q6.

Question	Answer	Mark	Mark scheme	Additional guidance
	0.02, 0.152, 0.2, 0.37, 0.4	B1	for correct order	Accept reverse order

Q7.

Question	Answer	Mark	Mark scheme	Additional guidance
	60	B1	cao	

Q8.

Question	Answer	Mark	Mark scheme	Additional guidance
	-10, -7, -2, 0, 1, 8	B1	Accept the reverse order, eg 8, 1, 0, -2, -7, -10	

Q9.

Question	Answer	Mark	Mark scheme	Additional guidance
	4	B1	cao	

Q10.

Question	Working	Answer	Notes
		32	B1

Q11.

Question	Answer	Mark	Mark scheme	Additional guidance
	$\frac{3}{9}$	B1	for $\frac{3}{9}$ accept $\frac{1}{3}$	

Q12.

Question	Answer	Mark	Mark scheme	Additional guidance
	14	B1	cao	

Q13.

Question	Working	Answer	Mark	Notes
		47	B1	cao

Q14.

Question	Answer	Mark	Mark scheme	Additional guidance
	80	B1	cao	

Q15.

Question	Answer	Mark	Mark scheme	Additional guidance
	0.09	B1	cao	Accept an answer of .09

Q16.

Question	Working	Answer	Mark	Notes
		- 4, - 2, 0, 1, 4	1	B1 for correct list in the correct order

Q17.

Question	Answer	Mark	Mark scheme	Additional guidance
	70 or 7 tens	B1	for 70 (or seventy) or 7 tens (or seven tens)	Condone any incorrect spelling provided the intention is clear

Q18.

Question	Answer	Mark	Mark scheme	Additional guidance
	Error identified	C1	<p>error correctly identified</p> <p><b>Acceptable examples</b>  bar for brown is too high  16 should be 15  brown needs to be one less  brown is wrong  the graph does not match the table</p> <p><b>Not acceptable examples</b>  no title  the gaps between the bars are wrong</p>	

Q19.

Question	Working	Answer	Notes
a		-2	M1 For subtraction of 7 from both sides or division of all terms by 3 as first step of solution A1 cao
b		8	M1 For substitution $3 \times 6 - 2 \times 5$ A1 cao

Q20.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	6 or -6	M1 A1	for $12^2 + 2 \times -3 \times 18 (= 36)$ for 6 or -6, accept $\pm 6$	Terms may be partially evaluated. Only one value is required for full marks
(b)	$s = \frac{v^2 - u^2}{2a}$	M1 A1	for subtracting $u^2$ from both sides or dividing all terms by $2a$ as the first step $s = \frac{v^2 - u^2}{2a}$ oe	Must see this step carried out, not just the intention shown

Q21.

PAPER: IMA0 1F				
Question	Working	Answer	Mark	Notes
(a)		2	1	B1 cao
(b)		0,1,2	2	M1 for any two of 0, 1, 2 correct with no extras or for showing 3,4,6,7 as consecutive numbers in an ordered list (ignore numbers before or after 3,4,6,7 and allow an extra 4 written within the list 3,4,4,6,7). A1 fully correct answer in any order

Q22.

Question	Working	Answer	Mark	Notes
(a)		5	B1	cao
(b)		7	M1 A1	starts to find number using inverse operations (oe), e.g. use of $\div 2$ or $+ 3$ cao
(c)		3	M1 A1	starts to find the number by using inverse operations with own values or algebraic expressions, e.g. use of $\div 2$ and $+ 3$ ; e.g. $2x - 3$ cao

Q23.

Paper: 5MB2F_01				
Question	Working	Answer	Mark	Notes
		50	4	M1 for $120 \div 3 (=40)$ or $120 \div 4 (=30)$ oe B1 for 30 and 40 M1 for $120 - (40 + 30)$ A1 cao  or M1 for $\frac{1}{3} + \frac{1}{4}$ oe B1 for $\frac{7}{12}$ oe M1 for $1 - \frac{7}{12}$ A1 cao

Q24.

		Working	Answer	Mark	Notes
			2400	3	B1 for one of 20, 40, 3 or 300 M1 for "20"x"40"x"3" or "20"x"40"x"300" (values do not need to be rounded) A1 for answer in range 2280 – 2520  SC : Award B3 for an answer of 2400 if no working seen  NB. An answer of 2416.05 implies B0 M1 A1

Q25.

Paper: 5MB2F_01					
Question		Working	Answer	Mark	Notes
			4	3	M1 for $450 \div 30 (=15)$ or adding up at least ten 30s M1 for $50 \div "15"$ or 3.3 (or better) or 3 with remainder 5 A1 cao  If no marks awarded then SC B1 for $50 \div 30 (= 1500)$

Q26.



	Working	Answer	Mark	Notes
(a)		46 – 49	1	B1 for 46 – 49
(b)		43 – 46	1	B1 for 43 – 46
*(c)		Comparative statement	3	M1 for $54 - 58$ or $90 \times 5 \div 8$ ( $=56.25$ ) M1 for $'56' \times 3$ ( $=168$ ) C1 (dep on M1) for No and eg only $162 - 174$ miles OR M1 for $3 \times 90$ ( $=270$ ) M1 for changing $'270'$ to miles ( $=162 - 174$ ) C1 (dep on M1) for No and eg only $162 - 174$ miles OR M1 for $180 \div 3$ ( $=60$ ) M1 for changing $'60'$ to kph ( $=94 - 98$ ) or $54 - 58$ C1 (dep on M1) for No and eg $94 - 98$ kph which is above speed limit or No and eg can't go faster than $54 - 58$ mph OR M1 for changing $180$ miles to km ( $=284 - 292$ ) M1 for $'288' \div 90$ ( $=3.2$ hours) or $3 \times 90$ ( $=270$ ) C1 (dep on M1) for No and eg more than 3 hours

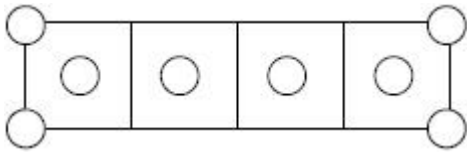
Q27.

Paper 1MA1: 1F			
Question	Working	Answer	Notes
(a)		2.79	P1 begins to work with figures eg finding $7 \times \frac{3}{4}$ ( $=5.25$ ) P1 works with integers eg 5.25 as 6 pints and $3 \times 2$ pints A1 cao
(b)		pay more	C1 deduces he may have to pay more [if he uses more than 0.857 pints a day]

Q28.

Question	Working	Answer	Mark	Notes
(a)		Diagram	1	B1 for correct addition to diagram
(b)		13, 16	1	B1 cao
(c)		37	1	B1 cao
(d)		24	1	B1 cao

(a)



Q29.

PAPER: 5MB2F_01				
Question	Working	Answer	Mark	Notes
(a)		0.8 drawn	1	B1 cao
(b)	$\frac{3}{4} + \frac{3}{4} = 1\frac{1}{2}$ $1.500 - 0.8 = 0.7$ $0.7 \times 1000$ OR $\frac{3}{4} + \frac{3}{4} = 1\frac{1}{2}$ $1\frac{1}{2} \text{ kg} = 1500 \text{ g}$ $0.8 \text{ kg} = 800 \text{ g}$ $1500 - 800$ OR $0.8 \text{ kg} = 800 \text{ g}$ $\frac{3}{4} \text{ kg} = 750 \text{ g}$ $800 - 750 = 50$ $750 - 50$	700	4	M1 For a complete method to find the weight of two puddings M1 For a complete method to find the difference of 'weight of two puddings' and 0.8kg M1 For a complete method to convert an appropriate weight from kg to g A1 cao OR M1 For a complete method to find the difference between 0.8 kg and $\frac{3}{4}$ kg  M1 For a complete method to find the difference between $\frac{3}{4}$ kg and '0.8 - $\frac{3}{4}$ ' M1 For a complete method to convert an appropriate weight from kg to g A1 cao