Name: _____

ENVISION TUITION 11 PLUS PAEPR

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Date:

Time: 1 hour

Total marks available: 57

Total marks achieved: _____

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NIC GARCIA

Questions

Q1.

*****

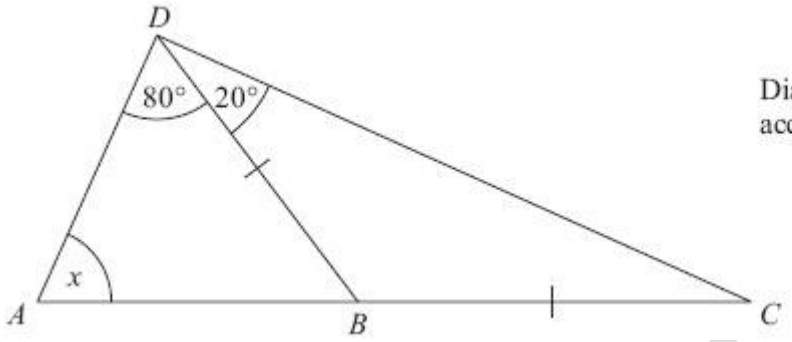

Diagram **NOT** accurately drawn

ABC is a straight line.
BD = *BC*
Angle *ADB* = 80°
Angle *BDC* = 20°

Work out the size of the angle marked *x*.
Give reasons for your answer.

(Total for Question is 4 marks)

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Q2.

*

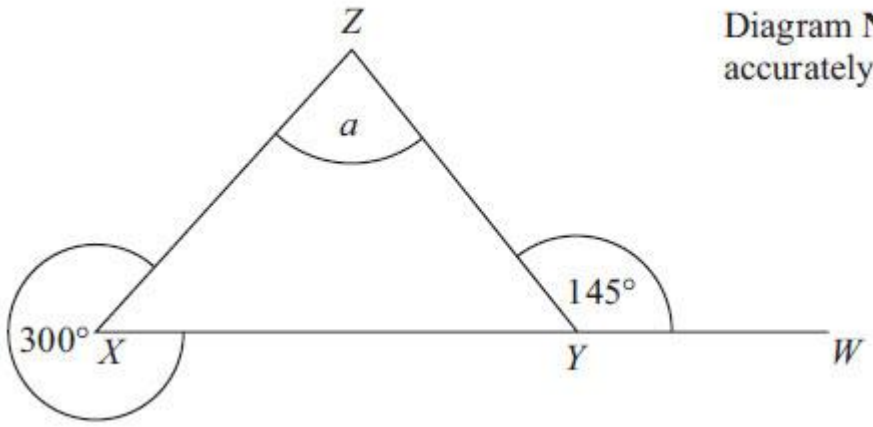

Diagram **NOT** accurately drawn

XYW is a straight line.

Work out the size of the angle marked *a*.
You must give reasons for your answer.

(Total for Question is 4 marks)

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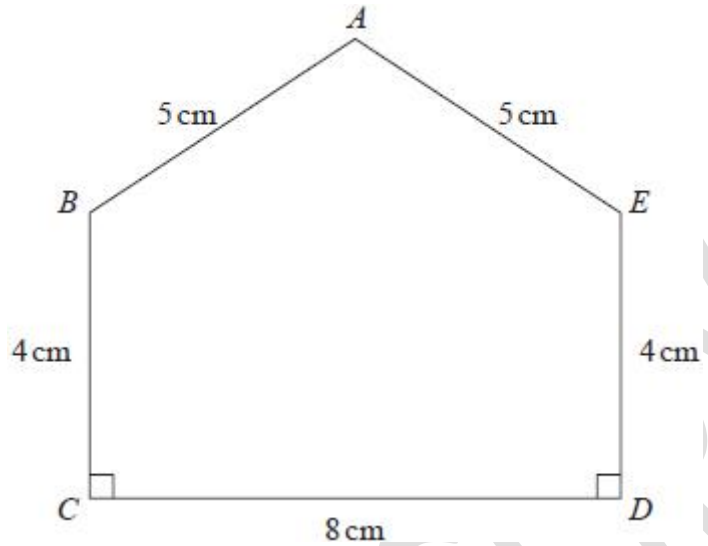
Q3.

ABCDE is a pentagon.



Work out the area of *ABCDE*.

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..... cm^2

(Total for question = 5 marks)

Q4.

Here is information about the cost of sending a parcel to Europe by Parcel Link.

Next day delivery	£19.00 plus 70p for each kg more than 5 kg
3 day delivery	£16.00 plus 50p for each kg more than 5 kg

Kate is going to send a parcel to Europe by Parcel Link.
The parcel weighs 12 kg.

Kate can send the parcel using next day delivery or using 3 day delivery.

(a) Work out the difference in the two costs.

£.....

(3)

Adam sends a parcel to Europe by Parcel Link.
He uses 3 day delivery.

The cost is £25

(b) Work out how many kilograms Adam's parcel weighs.

..... kg

(3)

(Total for question = 6 marks)

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Q5.

Here is part of a bus timetable from Harrow Lane to Cartbridge Street.

Harrow Lane to Cartbridge Street

Harrow Lane	08 02	09 04	10 12	11 02	12 04	12 12
Elm Drive	08 19	09 21	10 29	11 19	12 21	12 29
Hamden Road	08 32	09 34	10 42	11 32	12 34	12 42
Swipe Crescent	08 41	09 43	10 51	11 41	12 43	12 51
Cartbridge Street	08 50	09 52	11 01	11 50	12 52	13 01

A bus goes from Harrow Lane to Cartbridge Street.
The bus leaves Harrow Lane at 08 02

(a) At what time should the bus get to Cartbridge Street?

.....

(1)

Here is part of a bus timetable from Cartbridge Street to Harrow Lane.

Cartbridge Street to Harrow Lane

Cartbridge Street	13 11	14 14	15 07	16 11	17 14	18 07
Swipe Crescent	13 20	14 24	15 16	16 20	17 24	18 16
Hamden Road	13 29	14 33	15 25	16 29	17 33	18 25
Elm Drive	13 43	14 47	15 39	16 43	17 47	18 39
Harrow Lane	13 53	14 57	15 49	16 53	17 57	18 49

A bus goes from Cartbridge Street to Harrow Lane. This bus leaves Hamden Road at 13 29

(b) Work out how many minutes this bus should take to go from Hamden Road to Elm Drive.

.....

(1)

Peter lives in Harrow Lane. His grandmother lives in Swipe Crescent. Peter visits his grandmother. He goes by bus from Harrow Lane to Swipe Crescent. Peter wants to have at least 3 hours with his grandmother. He needs to be back at Harrow Lane by 16 00*(c) Plan Peter's journey to visit his grandmother and get back to Harrow Lane.
You must include the times of the buses.

(4)

(Total for Question is 6 marks)

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Q6.

* This formula is used to work out the body mass index, B, for a person of mass M kg and height H metres.

$$B = \frac{M}{H^2}$$

A person with a body mass index between 25 and 30 is overweight.

Arthur has a mass of 96 kg.
He has a height of 2 metres.

Is Arthur overweight?
You must show all your working.

(Total for Question is 3 marks)

Q7.

Babajan makes breakfast cereal.
She mixes nuts, raisins and oats in the ratio 3 : 2 : 5 by weight.

On Monday, Babajan uses 60 grams of nuts.

(a) Work out the weight of raisins and the weight of oats she uses to make the breakfast cereal.

raisins ..... grams

oats ..... grams

(3)

On Tuesday, Babajan makes 300 grams of the breakfast cereal.

500 grams of nuts cost £8

(b) Work out the cost of the nuts used to make 300 grams of the breakfast cereal.

£ .....

(3)

(Total for question = 6 marks)

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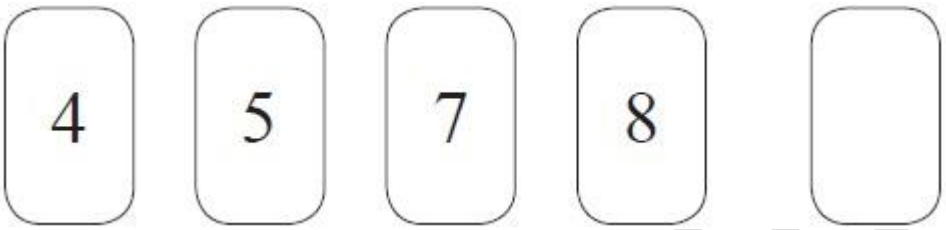
Q8.

Here are five cards.



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

The number on the last card is hidden.

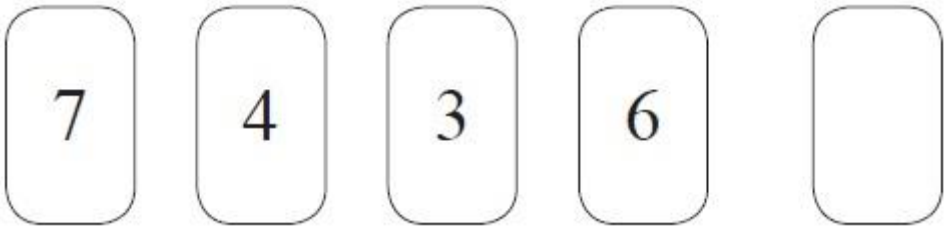
The range of the five numbers is 6

(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)

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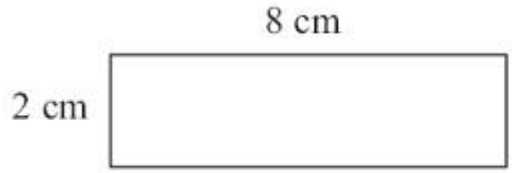
Q9.

The diagram shows a rectangle and a square.



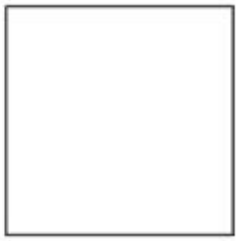


Diagram **NOT** accurately drawn

The perimeter of the rectangle is the same as the perimeter of the square.

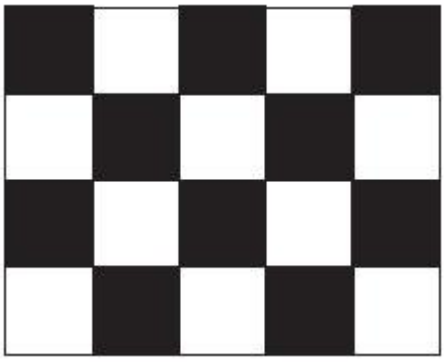
Work out the length of one side of the square.

. . . . . cm

(Total for Question is 4 marks)

Q10.

Jim has a board made of squares.



Jim puts 50p on every black square.

Sophie puts 20p on every white square.

Work out the total amount of money on the board.

.....

(Total for Question is 3 marks)

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Q11.

A school shop sells fruit bars for 50p each.

On Monday the shop sold 20 fruit bars.
On Tuesday the shop sold fruit bars with a total value of £13.50

The shop sold more fruit bars on Tuesday than on Monday.

(a) How many more?

.....

(3)

The table shows all the things sold in the shop.

Snacks		Drinks	
Fruit bar	50p	Lemon drink	50p
Cereal bar	65p	Water	75p
Chocolate bar	£1.20	Fruit carton	95p

Katie has two £1 coins and three 20p coins.
She has no other money.
She buys 3 cereal bars and a lemon drink.

*(b) Does Katie have enough money left to buy a fruit bar?

You must show all your working.

(4)

(Total for Question is 7 marks)

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Q12.

Ed has 4 cards.
There is a number on each card.

The mean of the 4 numbers on Ed's cards is 10

Work out the number on the 4th card.

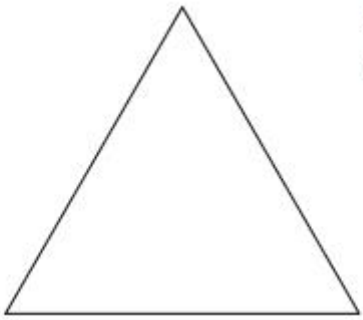
. . . . . .

(Total for Question is 3 marks)

Q13.

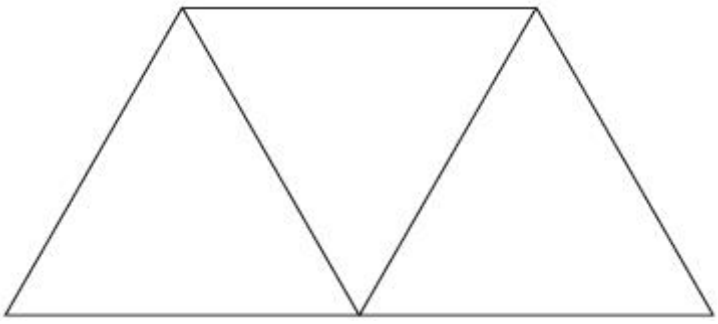
Here is an equilateral triangle.

Diagram **NOT** accurately drawn



The equilateral triangle has a perimeter of 24 cm.

Three of these equilateral triangles are used to make this trapezium.



Work out the perimeter of the trapezium. ..... cm

(Total for question = 3 marks)

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Mark Scheme

Q1.

		Working	Answer	Mark	Notes
		Reasons: base angles of isosceles triangle are equal **with either** angles in a triangle add up to 180° **and** angles on a straight line add up to 180° **or** angles in a triangle add up to 180° **and** (exterior angle of a triangle is equal to the sum of the interior opposite angles) **or** angles in a triangle add up to 180°	60° with reasons	4	M1 for angle *DCB* = 20° M1 for a complete method to find *x* C1 (dep on at least M1) for one reason with correct geometrical language used C1 (dep on M2) for 60 with full reasons with correct geometrical language used

Q2.

		Working	Answer	Mark	Notes
*			85	4	M1 for (angle YXZ =) 360 – 300 (=60) M1 for (angle XYZ =) 180 – 145 (=35) A1 cao C1 (dep on M1) for full reasons and unambiguous notation for angles (may be shown in diagram) (angles around a point sum to 360 and angles on a straight line sum to 180 and angles in a triangle sum to 180)

Q3.

Question		Working	Answer	Mark	Notes
		$\sqrt{5^2-4^2}=3$ $4\times 8=32$ $32+\frac{1}{2}(3\times 8)$	44	5	P2 for $\sqrt{5^2-4^2}$ or for a height of 3 (P1 for 5^2-4^2) P1 for process to find one area P1 for a complete process to find the total area A1 cao

Q4.

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PAPER: 1MA0_1F				
Question	**Working**	**Answer**	**Mark**	**Notes**
(a)		4.40	3	M1 for a method to find the cost for one delivery method eg $19 + 7 \times 0.7(0)$ $(= 23.9(0))$ or $16 + 7 \times 0.5(0)$ $(= 19.5(0))$ M1 for a method to find the cost for **both** delivery methods **and** attempting to subtract eg 23.90 – 19.50 A1 cao Accept 4.4 **OR** M1 for method to find the difference between the two delivery costs eg 19−16 (=3) and 70-50 (=20) M1 for a method to find the "cost" using the differences eg "3" + 7 × "20" A1 cao Accept 4.4
(b)		23	3	M1 for $25 - 16$ $(= 9)$ M1 for a method to divide "9" by 0.50 $(= 18)$ A1 cao **OR** M1 for starting with 16 and a method to add on 0.50s M1 for starting with 16 and adding on 0.50s to within 0.50 of 25 A1 cao

Q5.

Question		Working	Answer	Mark	Notes
	(a)		08 50	1	B1 for 08 50 or 8 50 (am) or 10 to 9
	(b)	13 43 – 13 29	14	1	B1 cao
	(c)*	e.g. HL to SC: 11 02 – 11 41 Visit (at least 3 hours) SC to HL: 15 16 – 15 49 [Note : there are 9 possible solutions]	A fully correct plan showing departure times and arrival times of the two bus journeys	4	B1 for a departure time of 08 02 or 09 04 or 10 12 or 11 02 from HL M1 (indep) for a correct arrival time at SC and a correct departure time from SC (or Cartbridge St) which allows for a stay of at least 3 hours in SC (the differencing does not have to be seen) OR for correctly adding 3 hours to a their arrival time at SC B1 for a departure time from SC of 13 20 (13 11 from CS) or 14 24 (14 14 from CS) or 15 16 (15 07 from CS) C1 (dep on M1) for a complete correct plan which includes the departure and arrival times of the two bus journeys [Note: bus departure times may be identified by their starting times. Eg the 15 07 from Cartbridge Street would be acceptable for the identification of the bus which arrives a HL at 15 49]

Q6.

Question		Working	Answer	Mark	Notes
*		$96 \div 2^2$ $= 96 \div 4$ $= 24$	No + calculations	3	M1 for $96 \div 2^2$ oe A1 for 24 C1 dep on M1for "No" **with** a calculation to support their conclusion **SC B1:** for $96 \div 2$ **and** a correct conclusion seen **NB** To award the marks in this question working **must** be shown

Q7.

Question	Working	Answer	Mark	Notes
(a)		40, 100	3	M1 method to find unit weight e.g. 60 ÷ 3 (= 20) M1 for complete method to find weight of **one** of the other ingredients e.g "20" × 2 (= 40) **or** "20" × 5 (= 100) A1 cao
(b)		1.44	3	M1 for a complete method to work out the weight of nuts needed e.g. 300 ÷ (3 + 2 + 5) × 3 (= 90) **or** 300 ÷ (60 + "40" + "100") × 60 (= 90) M1 for a complete method to work out the cost eg (800 ÷ 500) × "90" (= 144) A1 cao

Q8.

PAPER: 1MA0_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

Q9.

Question		Working	Answer	Mark	Notes
		2 + 8 + 2 + 8 = 20 20 ÷ 4 =	5	4	M2 for 2 + 8 + 2 + 8 oe **or** 20 seen **or** (2 + 8) ÷ 2 oe (M1 for the sum of 3 sides of the rectangle) M1 (dep) for the sum of 3 or 4 sides of the rectangle ÷ 4 **or** an attempt to evaluate (2 + 8) ÷ 2 oe to get the length of one side A1 cao **SC**: B1 for an answer of 4 coming from $\sqrt{2\times 8}$ oe

Q10.

		Working	Answer	Mark	Notes
			700p or £7	3	M1 for 10 × 50 (=500) or 10 ×20 (=200) M1(dep) for '500' + '200' A1 for 700p or £7 or £7.00 OR M1 for 50 + 20 (=70) M1(dep) for 10 × '70' A1 for 700p or £7 or £7.00 OR M1 for 50 + 20 + 50 + 20 (=140) M1(dep) for 5 × '140' A1 for 700p or £7 or £7.00 OR M1 for 3 × 50 + 2 × 20 (=190) or 2 × 50 + 3 × 20 (=160) M1(dep) for 2 × ('190' + '160') A1 for 700p or £7 or £7.00

Q11.

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Paper: 5MB2F_01					
Question		Working	Answer	Mark	Notes
	(a)		7	3	M1 for £13.50 ÷50p oe or 1350÷50 oe or adding up (at least 16) 50ps working towards £13.50 M1 for "27" − 20 A1 cao or M1 for 20 ×50 (= 1000) and 1350 − "1000" (=350) oe or 20 ×0.50 (= 10.00) and 13.50 − "10.00" (=3.50) oe M1 for "350" ÷50 or "3.50" ÷0.50 A1 cao
	*(b)		No eg only15p left	4	M1 for £1+£1+3×20p (=£2.60) oe M1 for 3×65p+50p (=£2.45) oe or "£2.60"–3×65p–50p oe A1 for 2.6(0) and 2.45 or 2.6(0) and 15p C1 (dep on M1) for a statement which includes "no" (oe) and a reference to figures such as 15p<50p, needs extra 35p etc. with figures shown using correct money notation and units.

Q12.

		Working	Answer	Mark	Notes
			7	3	M1 for 4 × 10 **or** 40 **or** $\frac{12+6+15+x}{4}$ **or** a correct equation M1 for a complete correct method A1 cao

Q13.

5MB2F_01 November 2015					
Question		Working	Answer	Mark	Notes
			40	3	M1 for 24 ÷ 3 (= 8) M1 for "8"× 5 A1 cao OR M1 for 3 × 24 (= 72) M1 for "3 × 24" – 8 – 8 – 8 – 8 A1 cao

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