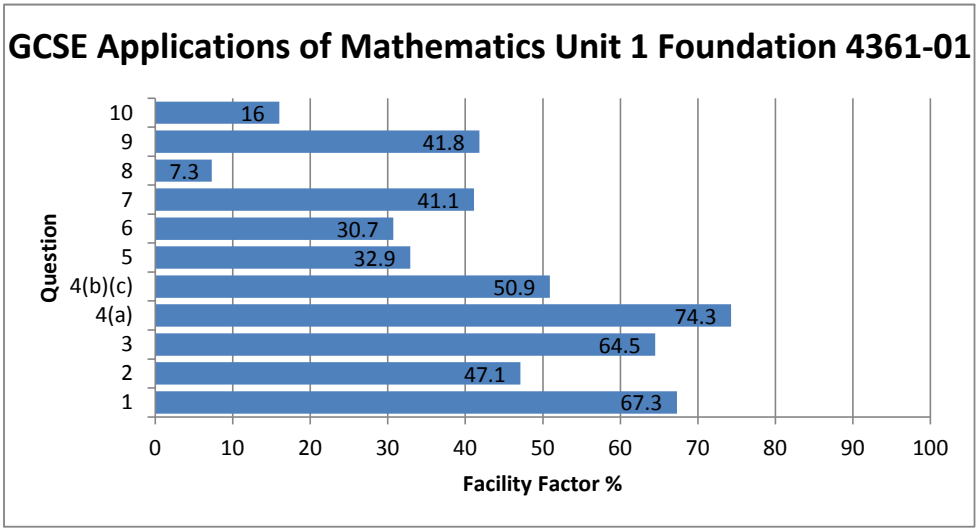
WJEC 2014 Online Exam Review

GCSE Applications of Mathematics Unit 1 Foundation 4361-01

All Candidates' performance across questions

Question Title	N	Mean	S D	Max Mark	F F	Attempt %	
1	567	8.1	2.9	12	67.3	100	1d
2	566	3.3	2.1	7	47.1	99.8	2ab
3	544	5.8	2.6	9	64.5	95.9	
4(a)	558	7.4	2.8	10	74.3	98.4	4a
4(b)(c)	563	3.6	1.9	7	50.9	99.3	
5	529	2.3	2.3	7	32.9	93.3	5a
6	565	1.5	1.5	5	30.7	99.7	
7	553	1.6	1.3	4	41.1	97.5	
8	537	0.3	0.7	4	7.3	94.7	
9	536	2.9	2.3	7	41.8	94.5	
10	536	1.3	1.9	8	16	94.5	



Examiner only

(d) The average times to cycle between these places are given in the table below.

	Church	**Castle**	**Skating park**
Church		1·5 hours	20 minutes
Castle	1·5 hours		$\frac{3}{4}$ hour
Skating park	20 minutes	$\frac{3}{4}$ hour	

Use the times given above to answer the following.

(i) How long does it take to cycle from the castle to the skating park?
Give your answer in minutes. [1]

.....

.....

..... minutes

(ii) How long, **in total**, will it take to cycle
- from the castle to the skating park
- then from the skating park to the church
- and finally from the church back to the castle? [3]

.....

.....

.....

.....

.....

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Examiner only

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	Church	Castle	Skating park
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(i) How long does it take to cycle from the castle to the skating park?
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3/4 hour = 4 = 60 (1 hour) 1 hour 45 minutes

60 + 45 = 105 mins.

105 minutes

(ii) How long, **in total**, will it take to cycle
- from the castle to the skating park
- then from the skating park to the church
- and finally from the church back to the castle? [3]

3/4 hour — 20 minutes — 1·5 hour

105 20 minutes 1 hour 50 minutes

60 + 50 = 110 minutes

105 + 110 + 20 = 235 minutes

time total = 3 hours 55 minutes.

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Examiner only

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Examiner only

2.

Christopher is tiling his kitchen walls.

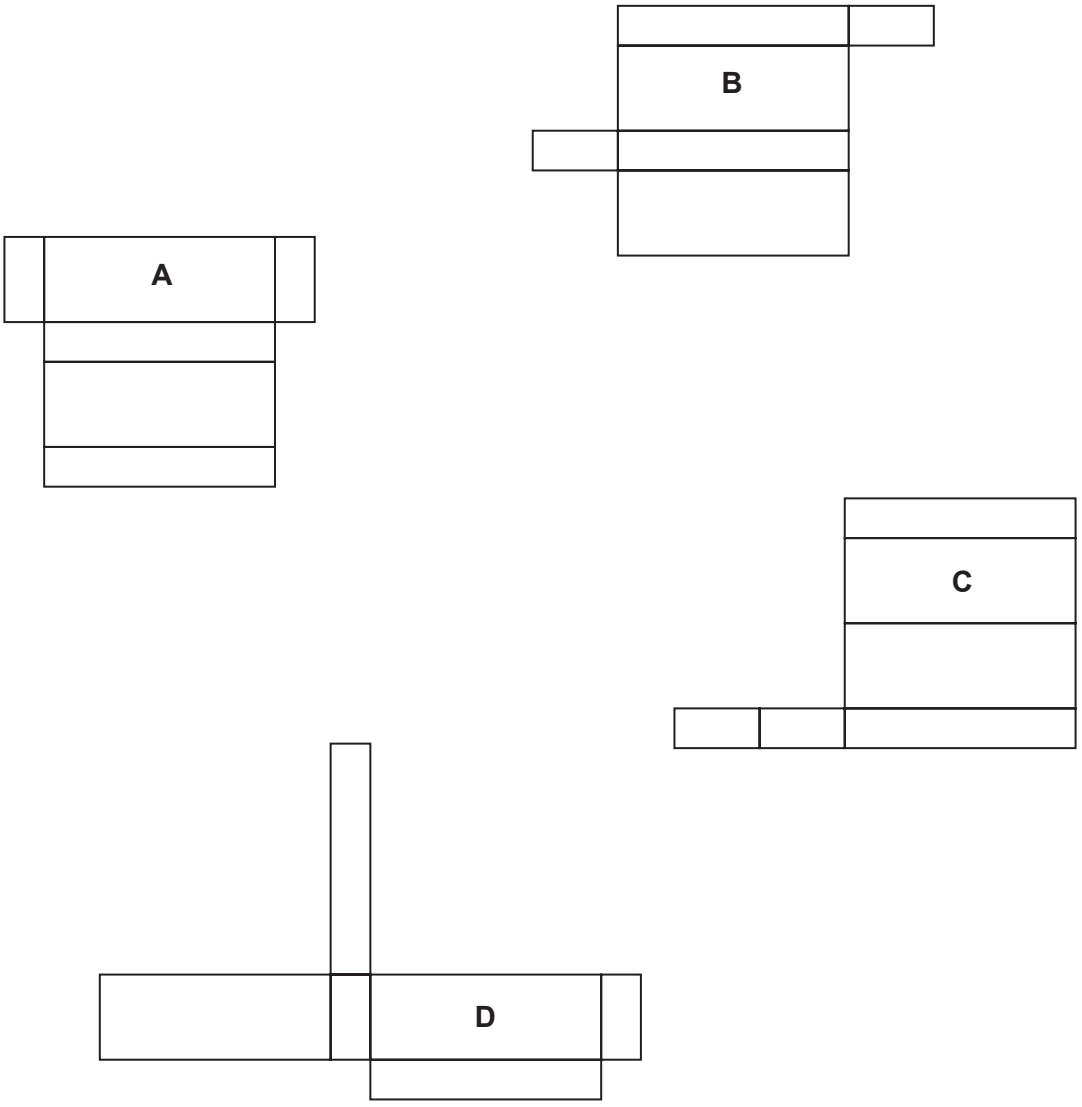
(a) He needs 25 boxes of tiles.
The price of one box is £27.60.
The tile shop has a special offer of

Buy one box and get another box half price

Christopher makes use of this special offer.
How much does Christopher pay for the 25 boxes of tiles? [5]

Examiner only

(b) The boxes that contain the tiles are cuboids.
Circle the possible **nets** that could be used to form the boxes for the tiles. [2]



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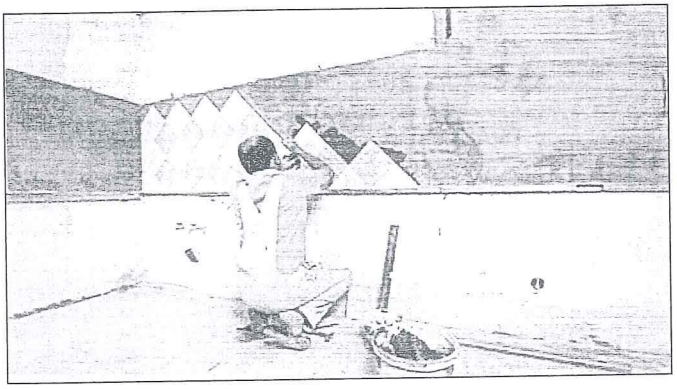
Examiner only

2.



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How much does Christopher pay for the 25 boxes of tiles? [5]

1 Box = £27.60

Half Price Box = £13.80

25 ÷ 2 = 12.5

12.5 x £27.60 = £345

12.5 x 13.80 = £172.50

345
+172.50
£517.50

He pays £517.50 for the 25 boxes of tiles.

Examiner only

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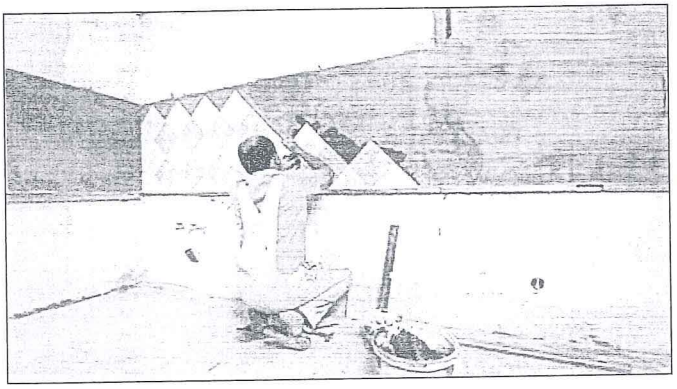

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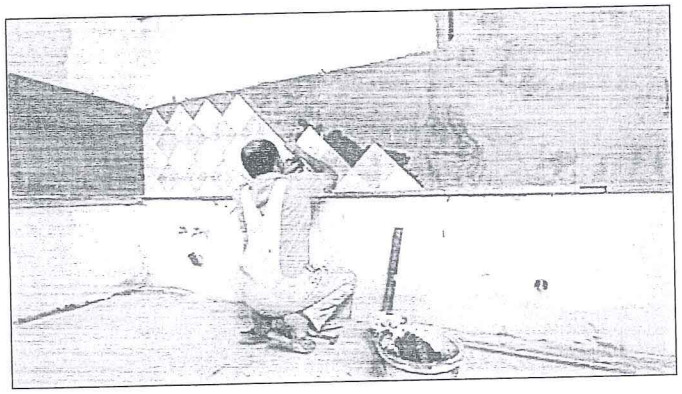

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How much does Christopher pay for the 25 boxes of tiles? [5]

27·60 x 25 = £690 without special offer.

1 box = £27·60 + 1 ~~free~~ half price =

27·60 ÷ 2 = £13·80

~~13·50~~ 24 ÷ 2 = 12 (half)

~~£690~~ 13·80 x 12 = £165·60

27·60 x 12 = £331·20

165·60 + 331·20 = £496·80 total.

690 - 496·80 = £193·20 saved with special offer.

Examiner only

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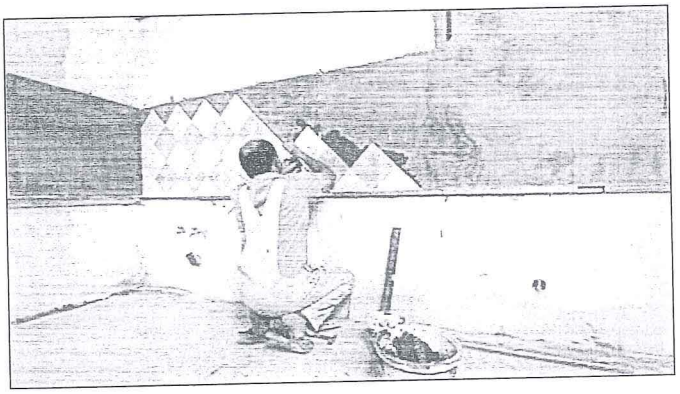

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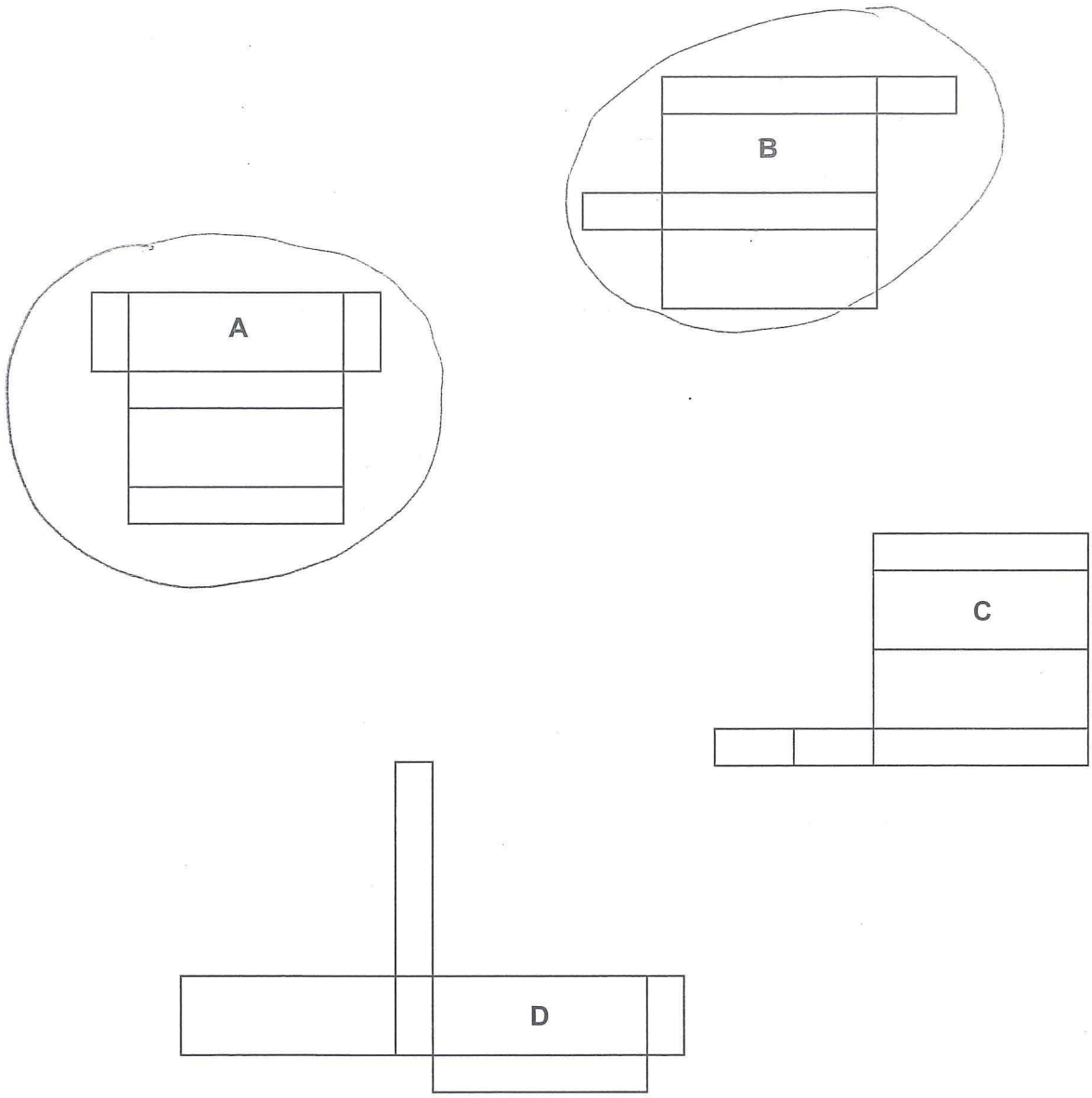
Examiner only

(b) The boxes that contain the tiles are cuboids.
Circle the possible **nets** that could be used to form the boxes for the tiles. [2]



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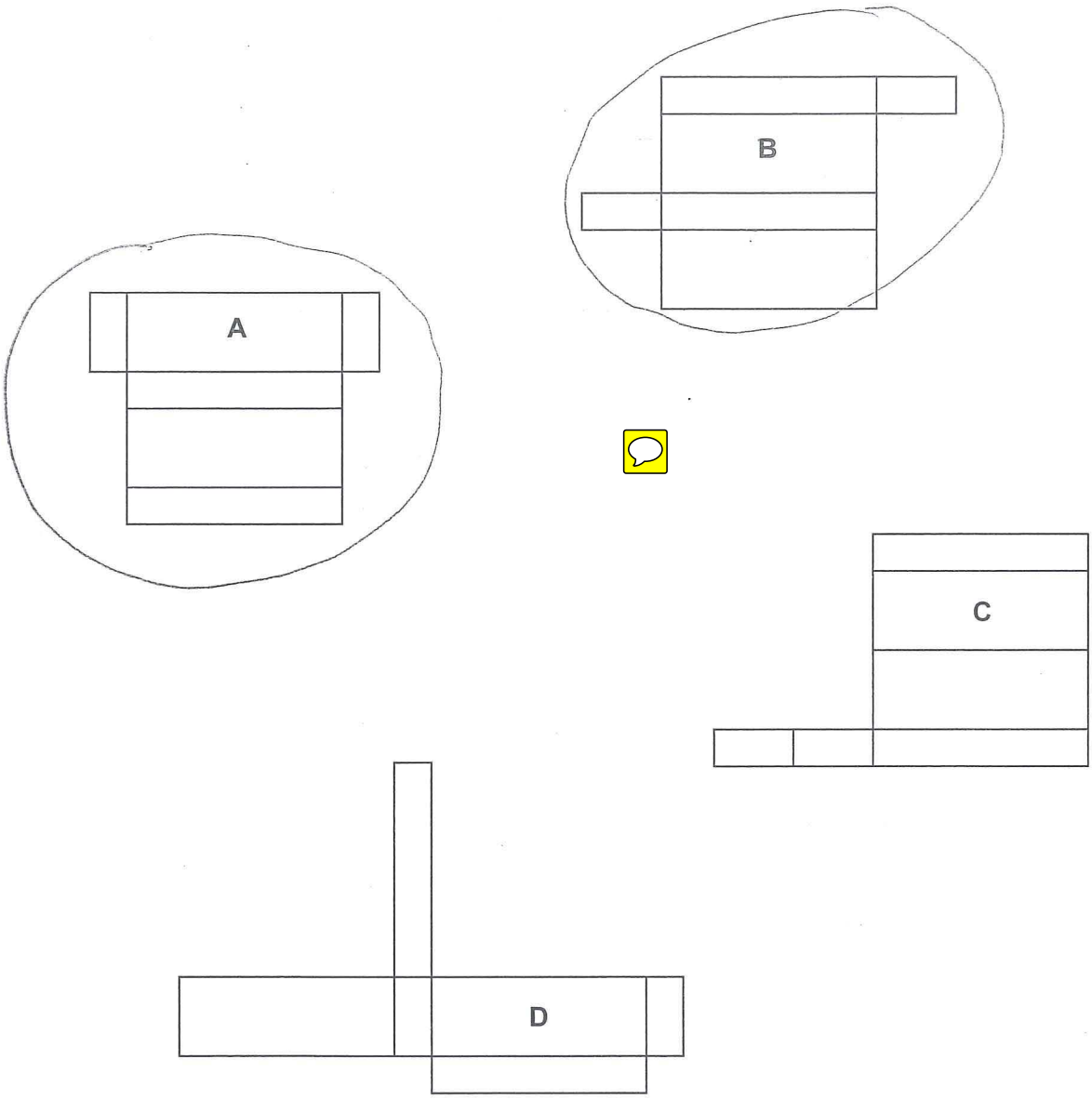

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Examiner only

4. (a) *You will be assessed on the quality of your written communication in this part of the question.*

A committee organised an end of Year 11 party in a local hotel.

The costs for the party were:

- A room hired for 5 hours at a cost of £24 per hour.
- A band hired at a cost of £165 for the evening.
- Balloons and decorations for the room at a cost of £356.
- A meal at a cost of £27 per person.

The tickets for the party were sold at £35 each.
154 tickets were sold.

After the committee had paid all of the costs for the party, the money left over was given to a charity.
How much money was given to the charity?
Show all your working. [10]

Examiner only

4. (a) *You will be assessed on the quality of your written communication in this part of the question.*

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Show all your working. [10]

24 x 5 = £120 room hire

35 x 154 = £5390 tickets.

decorations = £356

+ £165 band hire

5390 − 356 − 165 − 120

= £4749 left over from tickets sold.

£4749 was given to charity.

154
x 35
770
4620
5390

Examiner only

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24 x 5 = £120 room hire ~~per ha~~

35 x 154 = £5390 tickets.

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+ £165 band hire

5390 − 356 − 165 − 120

= ~~£6853~~ £4749 left over from tickets sold.

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154 x 35

770

4620

5390

Examiner only

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Show all your working. [10]

£24 x 5 = £120
+£165
+£356
+£4158
~~+£4798~~

total for costs are £4798
tickets were £5390 (which is money left over) so the total amount given to charity is £5930.

Examiner only

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£24 x 5 = £120
+£165
+£356
+£4158
+[illegible]

total for costs are £4783
tickets were £5390 (which is money leftover) so the total amount given to charity is £5930.

Examiner only

5. A new logo for a sports club has been designed to go onto their kit.
The design consists of **two squares** joined to **an equilateral triangle** as shown below.

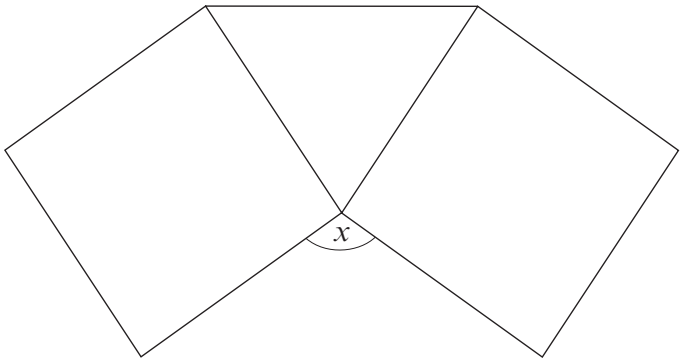

Diagram not drawn to scale

(a) Each square has sides of length 27 mm.
Find the perimeter of the logo, **giving your answer in cm**. [4]

.....

.....

.....

.....

(b) Find the size of angle x. [3]

.....

.....

.....

.....

.....

.....

Turn over.

Examiner only

5. A new logo for a sports club has been designed to go onto their kit.
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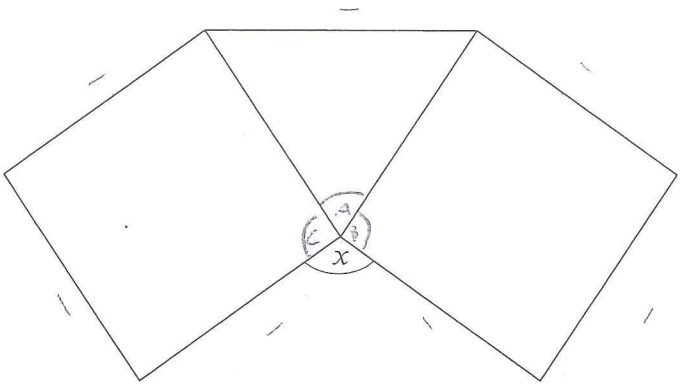

Diagram not drawn to scale

(a) Each square has sides of length 27 mm.
Find the perimeter of the logo, **giving your answer in cm**. [4]

a) $27 \times 7 = 189$ cm

Examiner only

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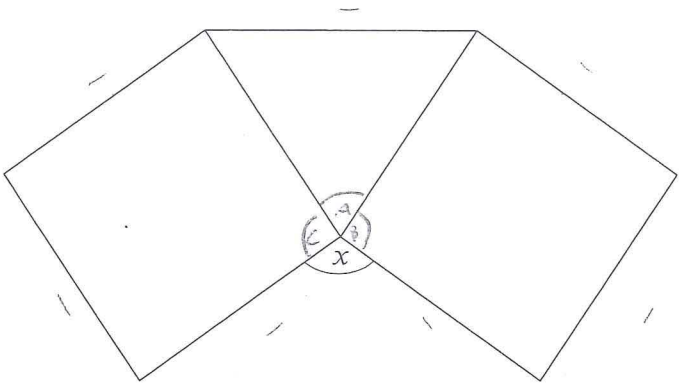

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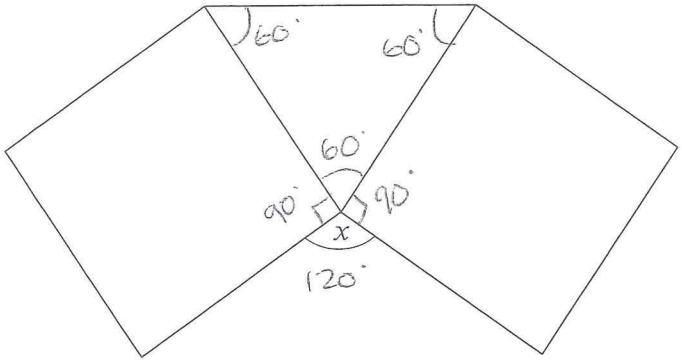

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(a) Each square has sides of length 27 mm.
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27 × 4 = 108mm

168 × 2 = 216mm + 27 = 243mm

243 ÷ 10 = 24.3 cm

Examiner only

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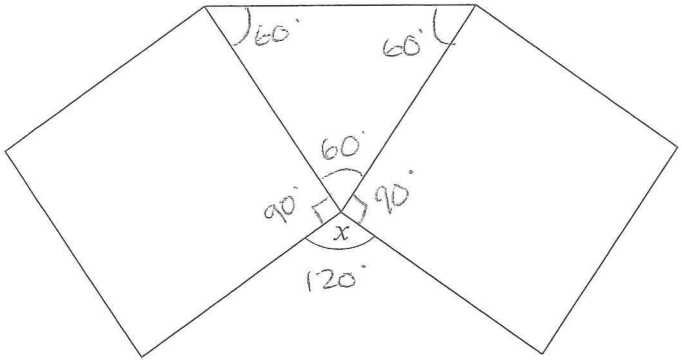

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