

National 4 Added Value Unit

Practice Paper B 2014-15

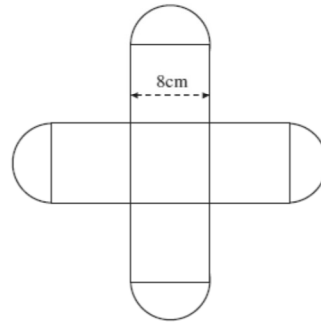
Part 2

You may use a calculator. Show appropriate working.

You have approximately 40 minutes to complete Part 2.

1. Solve algebraically the equation $5x - 6 = 22 - 2x$ (3)

2. This gift box has a net as shown in the diagram.

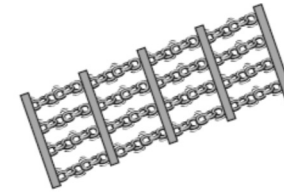


The net consists of 5 identical squares and 4 identical semi - circles.

The squares have side 8cm.

Calculate how much card would be needed to make one box. [Ignore overlaps] (# and 4)

3. A bar gate bracelet is designed with 4 chain links between 2 solid bars as show in the diagram below.



- (a) Complete the table below. (1)

Number of bars (b)	2	3	4	5	6	10
Number of chains (c)	4	8	12			

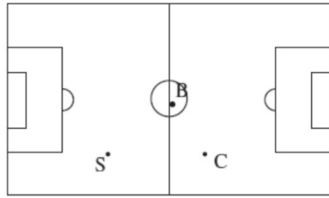
- (b) Find a formula for calculating the number of chain links (c) when you know the number of bars (b). (2)
- (c) How many bars would be in a bracelet which had 64 gold chain links? (# and 1)

4. Alisha is a sales rep and travelled from Inverness to Stranraer last week. She left Inverness at 0825 and arrived in Stranraer at 1340.

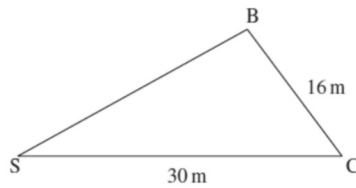
If she travelled at an average speed of 50 m.p.h., how far is it from Inverness to Stranraer? (4)

5. Two boys, Shakeel and Chris are playing football.

At one point Chris (C) is 30 m due east of Shakeel (S). The ball is at position B.



The positions of the 2 boys in relation to the ball are shown in the diagram.



Chris is 16 m away from the ball and angle $SBC = 90^\circ$.

Calculate how far Shakeel is away from the ball.

Give your answer correct to 1 decimal place.

(# and 3)

6. A skate board launching ramp has a side view as shown below. It is made up of a rectangle and a right angled triangle with longest side 1.5m.



To meet regulations the angle marked ' x° ' in the diagram should be no more than 25° .

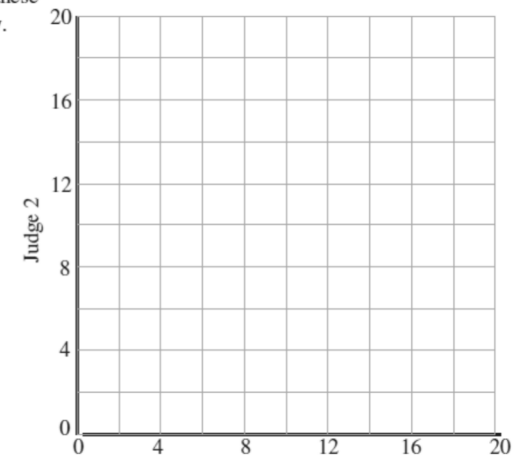
Does the skate board launching ramp above meet regulations?

(3 and #)

7. In a dance competition there were 2 judges. Here are the scores (out of 20) that they gave some competitors.

Judge 1	Judge 2
4	6
6	11
8	14
12	12
15	16
18	19

- (a) Draw a scattergraph of these scores on the grid below.



(2)

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- (b) Draw a best fitting line for this scattergraph.

(1)

- (c) Daryl got a score of 10 from Judge 1 and thought that Judge 2 would be likely to give him a score of 15.

Do you agree with Daryl?

(#)

8. In one class 18 pupils out of total of 24 liked Maths.

In a second class 21 out of 30 pupils liked Maths.

Tristan thinks that if a pupil was chosen at random from the first class that there was a better chance that they would like Maths than if the pupil was chosen from the second class?

Is he correct? Explain your answer.

(2 and #)