



KASLER

Kastelan & Samways Learning & Educational Resources

**PRACTICE
PAPER 2
SCHOOL
CERTIFICATE
TEST**

MATHEMATICS

SECTION 2

Part B

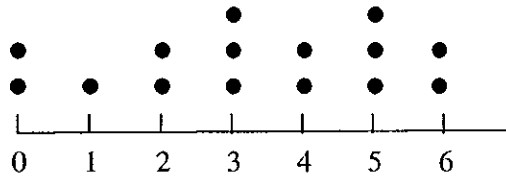
NAME

Directions for Section 2–Part B

1. You have 90 minutes to answer Section 2 Part A and Part B
2.
 - Part B Questions 76-80 (25 marks)
 - Allow about 30 minutes to answer this part
3. Calculators may be used in Section 2
4.
 - Do NOT write in pencil
5. Write your NAME at the top of this page

Question 76 (5 marks)

The graph below shows the number of goals scored in Alison's hockey team.



(a) How many games did Alison's team play?

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(b) What was the mode?

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(c) What was the average number of goals scored per game?

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(d) In what percentage of games did Alison's team score less than 3 goals?

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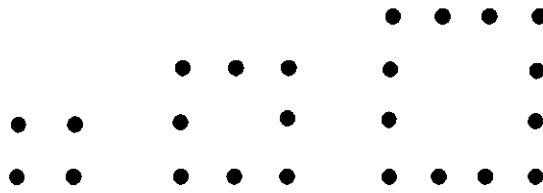
(e) A divided bar graph is to be drawn 12 cm long, to represent the information in the dot plot.

What will be the size of the section of the graph that represents 3 goals were exactly scored?

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Question 77 (5 marks)



The diagram above shows squares whose side lengths increase by one unit from each previous shape.

- (a) How many dots will be in the next shape in the sequence?

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- (b) Find the number of dots that would be present in the shape that has 7 dots on a side.

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- (c) Complete the table linking the number of dots in a side length with the number of dots in a picture.

Number of dots in a side (s)	2	3	4	5
Total number of dots in a picture (d)				

- (d) How many dots will be present in the shape that has n dots on a side.

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- (e) What will be the side length of a square that is made up of 364 dots?

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Question 78 (5 marks)

The information below is from a label on a package of cashews.

Servings per package (3)		Serving size: 50g	
	Per Serving 50g	Per 100g	
ENERGY	1260 calories	2520 calories	
PROTEIN	8.3 g	16.5 g	
FAT	23.8 g	47.5 g	
CARBOHYDRATE			
- TOTAL	15.5 g	31.0 g	
- SUGARS	3.8 g	7.6 g	
DIETARY FIBRE	3.9 g	7.8 g	
CHOLESTEROL	NEGLIGIBLE	NEGLIGIBLE	
SODIUM	190 mg	380 mg	
POTASSIUM	300 mg	600 mg	

- (a) How many grams would there be in two servings of cashews?

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- (b) What is the percentage of *dietary fibre* in cashews?

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- (c) What is the total number of grams of *dietary fibre* in the package?

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- (d) While using a step-machine at the gym, Cathy used 13 calories per minute. How many minutes would Cathy need to use the step-machine for to use the calories from a serving of cashews?

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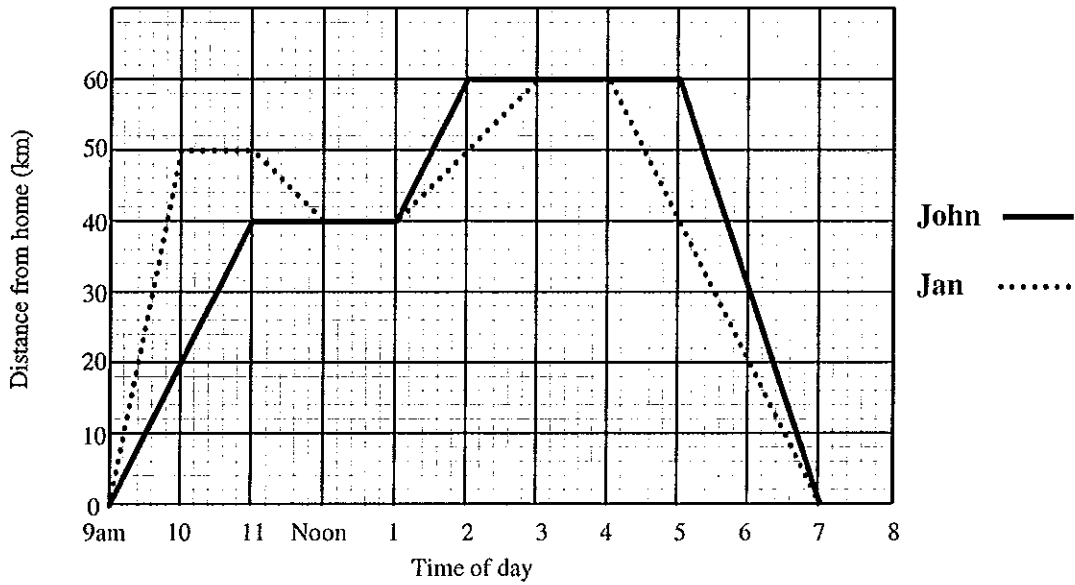
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- (e) The average daily requirement for sodium is 230 milligrams per day. How many grams of cashews would need to be eaten for this daily requirement. Give your answer to the nearest gram.

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Question 79 (5 marks)



The travel graph represents the car trips of John and Jan.

- (a) Calculate John's average speed for the first 2 hours.

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- (b) Describe Jan's trip until she met up with John for the first time.

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- (c) At what time and for how long do John and Jan meet for the second time?

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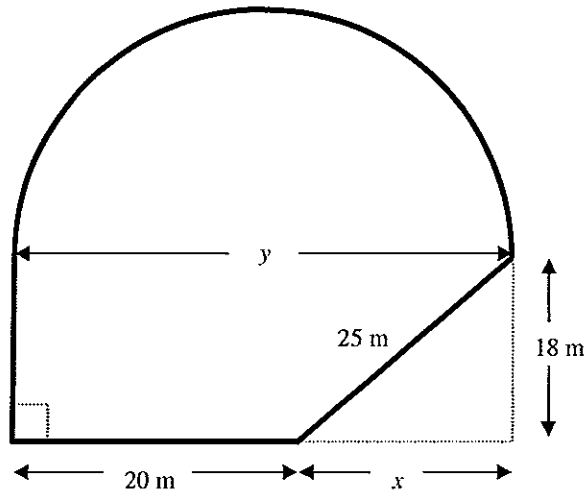
- (d) A time period when John is travelling faster than Jan is from

..... to

- (e) Mark wants to meet up with John and Jan some time after 3 pm. He leaves home at 1pm, meets John and Jan for an hour and then travels home. Mark's speed on the way home is 60 km/h.

Show the graph of Mark's trip on the above diagram.

Question 80 (5 marks)



The diagram above represents the cross section of an indoor hall that is being built. The diagram could be described as being a semi-circle joined to a trapezium.

- (a) Use Pythagoras' Theorem to find the length x to the nearest centimetre.

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- (b) Write your answer A, B, C or D to the following in the space provided.

The area of the semicircle, to the nearest square metre, is closest to

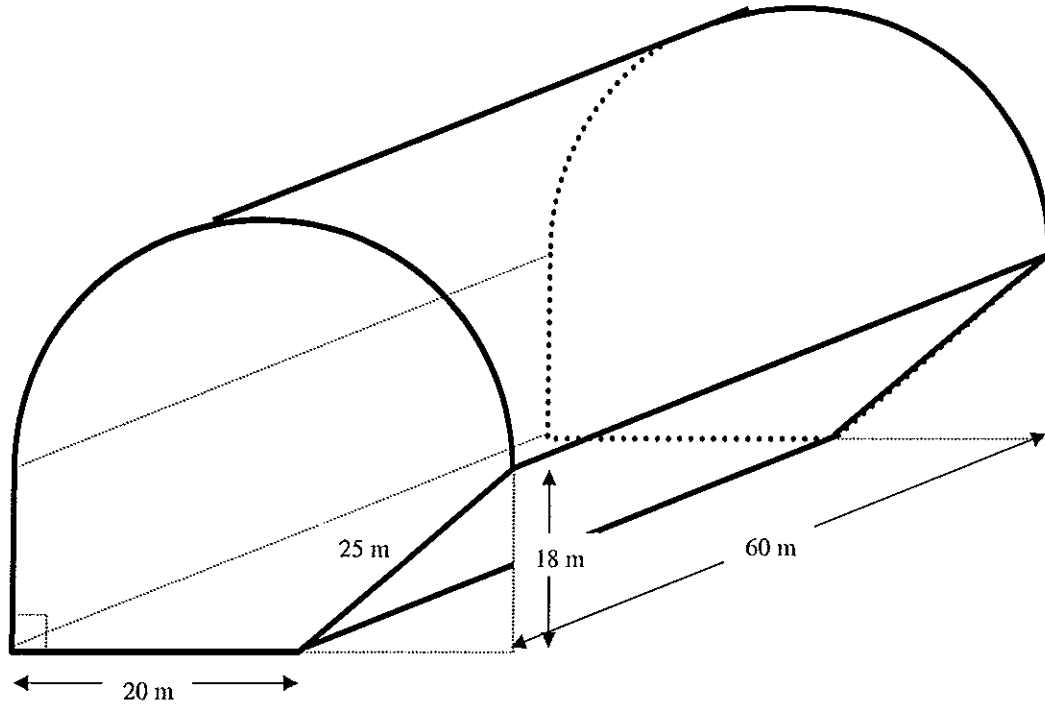
- (A) 548 m^2
 (B) 1096 m^2
 (C) 2191 m^2
 (D) 4382 m^2

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- (c) Find the area of the entire shape.

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Question 80 (continued)



- (d) The hall is to be constructed so that it has a length of 60 metres as shown above. The diagram shows a three dimensional view of what the hall will look like.

Calculate the volume of the indoor hall.

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- (e) To air-condition such an indoor space it is recommended that 1 horse power will be needed for every 15 cubic metres of volume.

Calculate how much horse power of air-conditioning is required for this hall to be air-conditioned, rounding off to the nearest horse power.

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