KASLER

Kastelan & Samways Learning & Educational Resources

NAME

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PRACTICE PAPER 3 SCHOOL CERTIFICATE TEST

MATHEMATICS

SECTION 2

Part A

Directions for Section 2–Part A

1. You have 90 minutes to answer Section 2 Part A and Part B

2
- Part A Questions 26-75 (50 marks)
- Allow about 60 minutes to answer this part

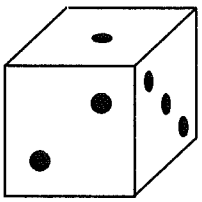
3 Calculators may be used in this part

4
- Complete your answers to Questions 26–50 on Section 2–Part A–Answer Sheet 3
- Complete your answers to Questions 51–69 on Section 2–Part A–Answer Sheet 4
- Complete your answers to Questions 70–75 in this booklet

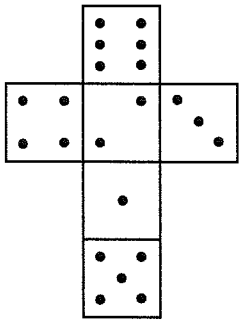
5 Write your NAME at the top of this page

Complete your answers to Questions 26–50 on the Section 2—Part A—Answer Sheet 2.

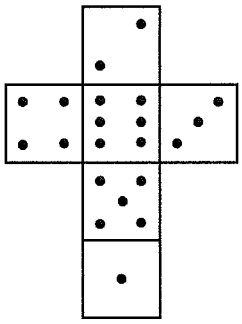
26 Which of the following nets of a cube can be folded to make the cube shown below?



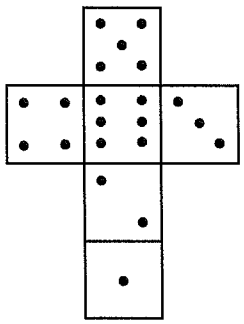
(A)



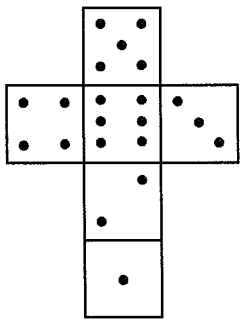
(B)



(C)



(D)



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27 A milk crate holds sixteen 2L bottles of milk. Estimate the weight of a milk crate full of milk.

(A) 3kg (B) 16kg (C) 34kg (D) 340kg

---

28 Debbie earns $22 for delivering newspapers to 420 houses. On Friday she is paid an extra $12 to deliver a magazine with each newspaper.

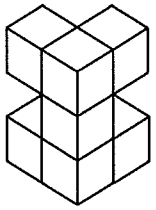
How much will Debbie earn per house?

(A) 5·2 cents (B) 8 cents (C) 12 cents (D) 22 cents

---

29 James stuck the faces of some wooden cubes together and formed the shape shown below.

What is the most number of cubes that James could have used in this shape?



(A) 8 (B) 9 (C) 10 (D) more than 10

---

30 Jim earns \$68 for mowing lawns, which took him 3h 40 min to do. In working out his hourly rate he used the formula $R = \frac{68}{h}$.

What does h represent?

(A) The hourly rate.

(B) The number of minutes worked.

(C) The number of hours worked.

(D) The amount of money earned per hour.

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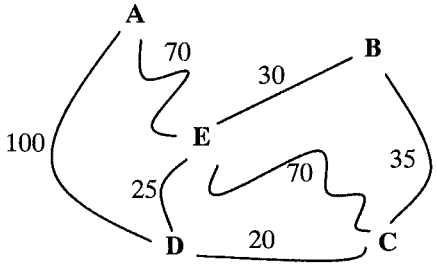
31 The diagram below shows the time it takes to travel between towns A, B, C, D and E.



What is the shortest time that Asoka can travel from A to C?

(A) 1h 55min (B) 2h (C) 2h 15 min (D) 2h 20 min

---

32 Belinda is hosting a party for 50 people. Two catering services have quoted the following prices:

Ken's Catering	**Millie's Meals**
• \$6·50 per person. • Free delivery. • **Drinks** \$2·00 per bottle.	• \$5·50 per person. • \$25 delivery. • **Drinks** \$2·50 per bottle.

Belinda decides that she needs 30 bottles of drink. What is the least amount she will need to pay ?

(A) \$300 (B) \$375 (C) \$385 (D) \$400

---

33 How many cereal boxes measuring 9cm × 24cm × 30cm can be packed into a larger carton measuring 46cm × 49cm × 61cm?

(A) 9 (B) 10 (C) 12 (D) 20

---

34 The rear wheel of a bicycle wheel is driven by a small cog 6cm in diameter. The front cog at the pedals is 18cm in diameter.

How many revolutions of the pedals will I need to make to turn the rear wheel 10 times?

(A) 10 (B) $3\frac{1}{3}$ (C) 30 (D) Cannot be determined

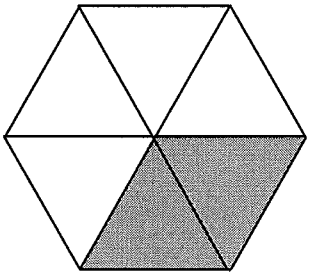
---

35 Which rule will produce the number sequence –1, 4, 9, 14, . . . ?

(A) $y = -x + 4$ (B) $y = 5x - 1$ (C) $y = 4x - 1$ (D) $y = -x + 5$

---

36 In the diagram below, the ratio of the shaded area to the unshaded area is



(A) 2 : 5 (B) 3 : 1 (C) 1 : 3 (D) 1 : 2

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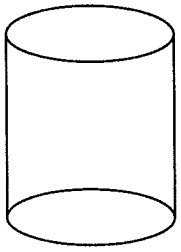
37 All the containers below have a base area of $20cm^2$.

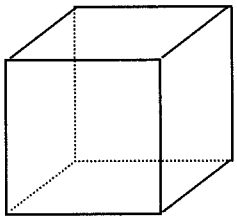
Which container has a capacity of 800mL?

(A)



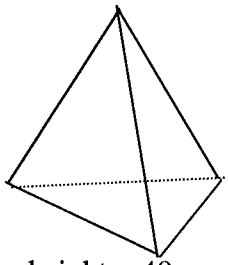
height = 4cm

(B)



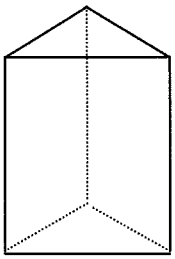
height = 40cm

(C)



height = 40cm

(D)



height = 400cm

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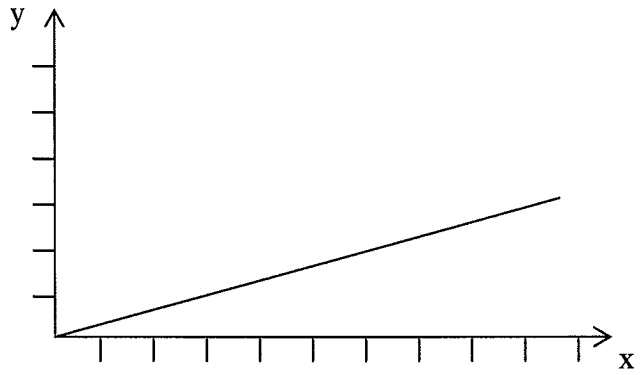
38 A lawn mower uses 3mL of fuel every minute of normal use.

How much fuel is used in 2 hours at this same rate?

(A) 0·036 L (B) 0·36 L (C) 3·6 L (D) 36L

---

39 Which rule best represents the graph shown below:



(A) $y = 3x$ (B) $y = 2x$ (C) $y = \frac{1}{3}x$ (D) $y = \frac{1}{2}x$

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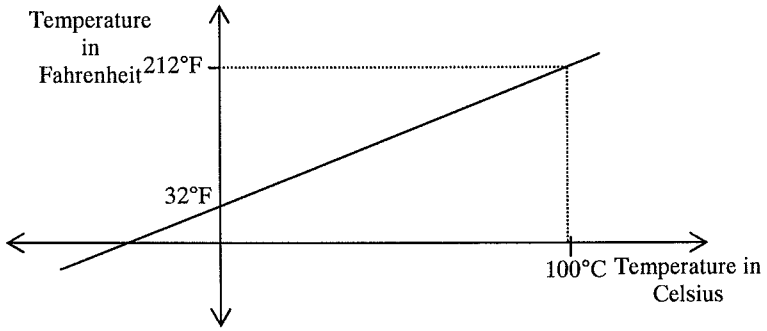
40 The following graph shows the conversion of temperature between degrees Celsius and degrees Fahrenheit.



What is the temperature in degrees Celsius if it is 40° Fahrenheit?

(A) 5° (B) 52° (C) 85° (D) 176°

---

41 It takes 4 men 3 days to load 5 trucks with grain.

How long would it take 5 men to load 2 trucks if they work at the same rate?

(A) $\frac{25}{12}$ days (B) $\frac{25}{6}$ days (C) $\frac{24}{25}$ days (D) $\frac{12}{25}$ days

---

42 Phillip is doing a survey to determine which is Australia's most popular breakfast cereal.

He decides to gather information from the following sources:

I a survey from his mother's friends.
II a survey outside a supermarket where Corn Flakes are always cheap.
III a survey at the local library.
IV a survey at a health resort

Which survey(s) are likely to have biased results?

(A) III and IV (B) I and III (C) II only (D) II and IV

---

43 Josie bought some new clothes for \$43·35 after receiving a 15% discount. What was the original price of the dress?

(A) \$49·85 (B) \$51 (C) \$55·32 (D) \$65·02

---

44 John has a T-shirt with SYDNEY 2000 printed on it. How will it appear in a mirror?

(A) 

(B) 

(C) 

(D) 

---

45 The cost of the Sydney Royal Easter Show 2000 was \$17 for an adult, \$9·50 for a child (4 to 16 years of age) and under 4 years of age was free.

Bus fare was \$1 per adult and 50c children (2 to 16 years). Parking was \$12 per day.

How much will it cost a family of 2 adults and 3 children aged 10, 7 and 3 to pay for parking, get a bus ride to the show and to enter the show-ground?

(A) \$68·00 (B) \$68·50 (C) \$77·50 (D) \$78·00

---

46 The formula $d = 5\sqrt{\frac{h}{2}}$ helps sailors work out how far they are out to sea. The skipper of *Gala Day* measures h to be 12.

The value of d is closest to:

(A) 0·72 (B) 2·44 (C) 3·04 (D) 12·24

---

47 A four-sided figure has two pairs of parallel sides.

The figure could be:

(A) any rectangle or any hexagon.

(B) any rectangle or any parallelogram.

(C) any parallelogram or any kite.

(D) all of the above.

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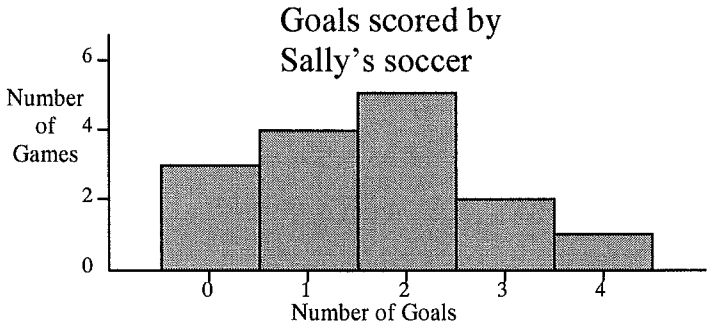
48 Sally's mother kept a record of how many goals were scored by Sally's soccer team over the season

In what fraction of the games did Sandy's team score 3 goals?



(A) $\frac{2}{3}$ (B) $\frac{2}{15}$ (C) $\frac{3}{15}$ (D) $\frac{2}{13}$

---

49 The answer to $\sqrt{79}$ is nearest to

(A) 7 (B) 8 (C) 9 (D) 10

---

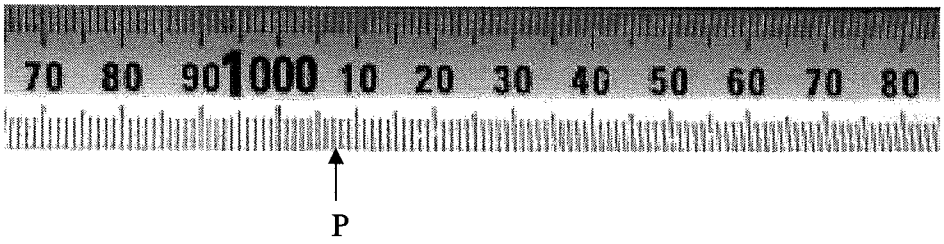
50 1 litre of paint covers 14 square metres. Liam has already used $\frac{2}{5}$ of a 4L can.

How many more square metres can he paint?

(A) 5·6 m^2 (B) 8·4 m^2 (C) 22·4 m^2 (D) 33·6 m^2

Complete your answers to Questions 51–69 on the Section 2—Part A—Answer Sheet 3.

51 What value is represented by P?



52 A light aircraft flying on a bearing of 077° veered left by 98°. What is the new bearing of the aircraft?

53 Tony's watch gains 2 minutes every day. To help fix the problem, Tony adjusts his watch to the correct time on the first of each month.

How many minutes will Tony change his watch by on the first day in October?

54 A solid is made up of 4 equilateral triangles. How many edges does it have?

55 In a hockey league there are 4 teams. Each team plays each other once.

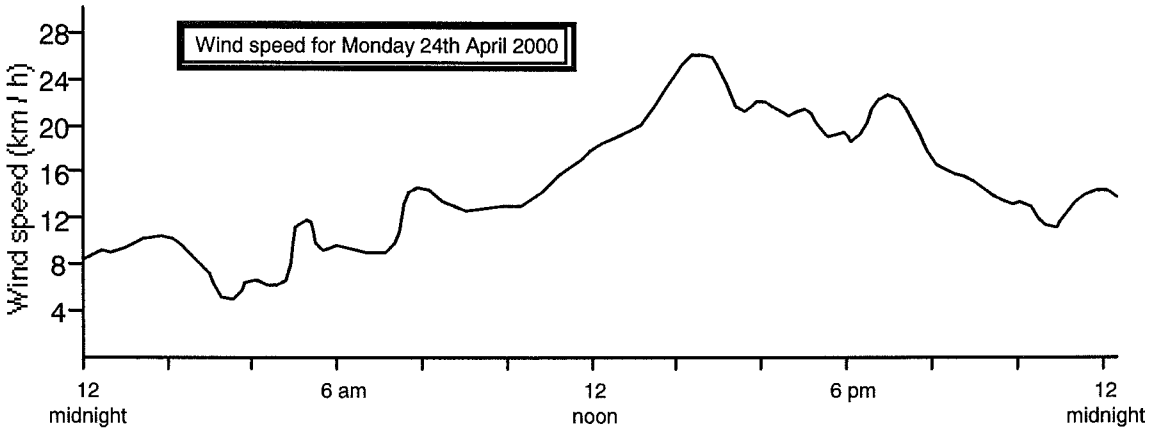
How many games are played altogether in the league?

56 Jenny travelled from Marston to Pearl Beach. The trip took a total of 38 minutes.

TRAIN TIMETABLE						
		am	am	am	am	pm
Ashton		10:10	11:00	11:30	11:40	12:00
Marston		10:20	11:10	11:40		12:08
Sundale	arrival	10:22	11:21	11:43	11:50	12:21
	departure	10:25	11:23	11:44	11:53	12:23
Holloway			11:32	11:53		12:32
Pretty Bay			11:37	11:58		12:37
Pearl Beach			11:45	12:18pm	12:16pm	12:45

What time did Jenny leave if all the trains ran to schedule that day?

57 This graph shows the wind speed for Monday 24th April 2000.



What is the range in the wind speed for that day?

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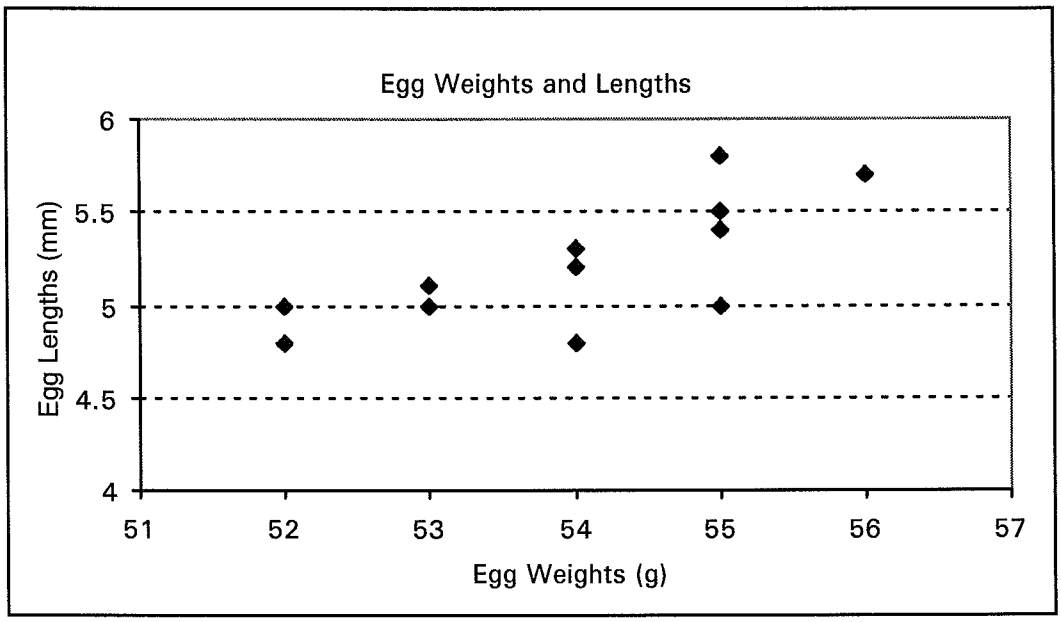
58 Jade plotted the lengths and weights of a dozen eggs



What is the average weight of the eggs?

---

59 Jan bought a 60m roll of plastic wrap to cover food. Her daughter Juliet discovered that the roll of film was 2mm thick and that it consisted of 251 layers. *{Note: 1 metre = 1 000 000 micrometres}*

What is the thickness of one layer of film in micrometres?

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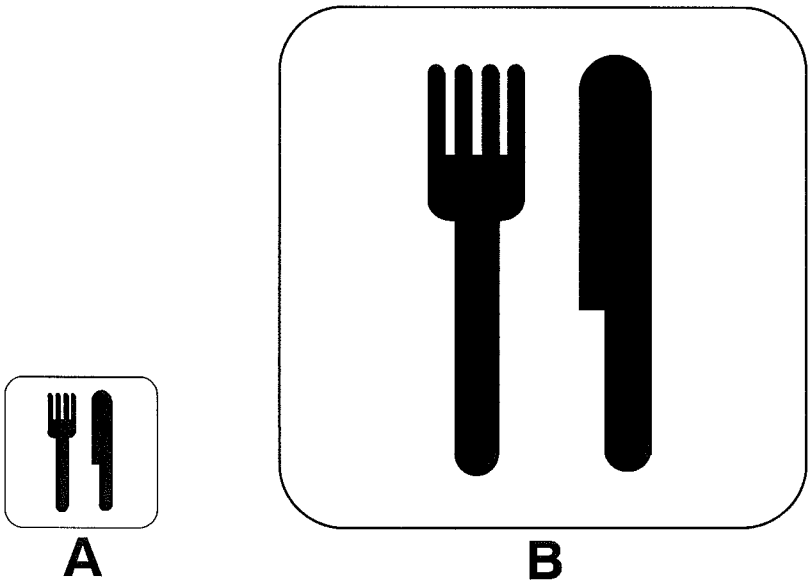
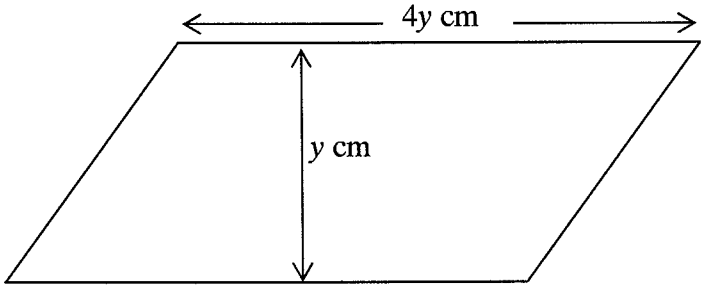
60 What scale was used to enlarge picture A to picture B?



61 Tim draws two similar parallelograms. The first has an area of $60cm^2$. He draws the second parallelogram twice as high and twice as long as the first.

What is the area of the second parallelogram?

62 Calculate y in the shape below given its area is $25cm^2$.



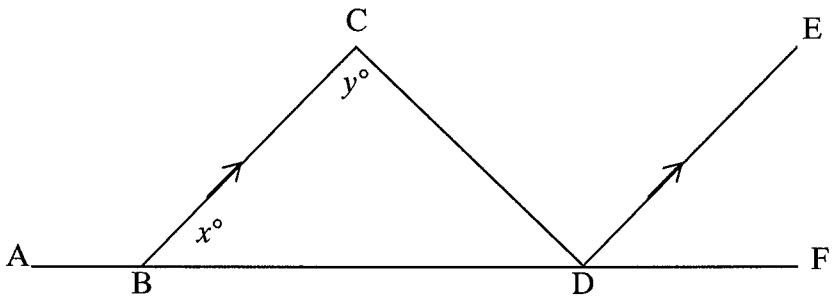
63 Fiona sells books for her local bookshop. She is paid \$52 each day plus 10% commission on any sales that she makes.

What value of books did she sell if she earnt \$1242 over one 5-day week?

64 A semicircle has an area of $13cm^2$. What is the perimeter (to 1 decimal place) of the semicircle?

Each of Questions 65, 66, 67, 68 and 69 may have MORE THAN ONE correct answer.
Fill in EVERY correct answer for each of these questions on Section 2 – Answer Sheet 3.

65 Which of the following is always true about the diagram below:



(A) $\angle CDE = x°$.

(B) $\angle ABC$ is complementary to $x°$.

(C) $\angle EDF$ and $x°$ are corresponding angles.

(D) $\angle CDF = x° + y°$.

---

66 Which of the following are true statements ?

(A) $2 \times 3 + 4 \times 3 = 3 \times (2 + 4)$.

(B) $-m \times -m \times -m = -m^3$.

(C) $-(2)^3 = (-2)^3$.

(D) $-(2)^2 = (-2)^2$.

---

67 Which of the following are equivalent to one-third?

(A) 0·3 (B) $\frac{39}{13}$ (C) $33\frac{1}{3}\%$ (D) $0.\dot{3}$

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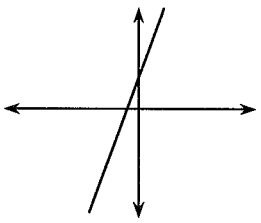
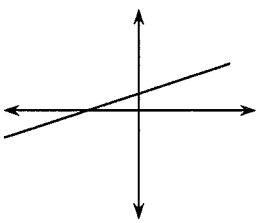
68 Which of the following graphs could have a gradient equal to 2?

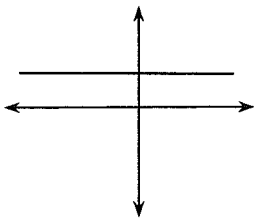
(A)



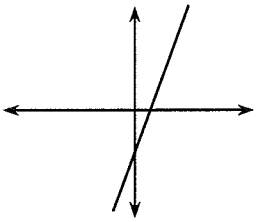
(B)



(C)



(D)



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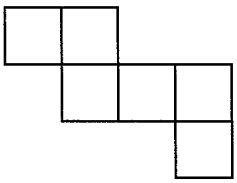
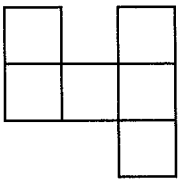
69 Which of the following nets can fold to form a solid shape?

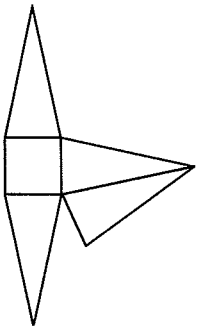
(A)



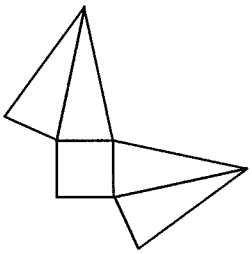
(B)



(C)



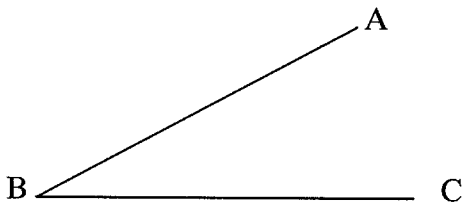
(D)



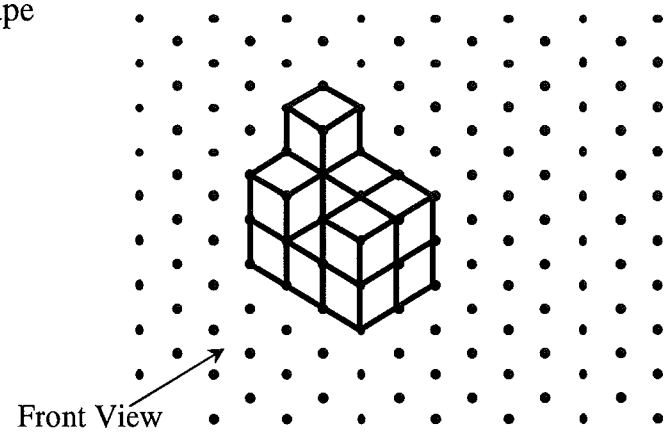
End of questions in Section 2 Part A that may require you to fill in more than one correct answer.

Complete your answers to Questions 70–75 in this booklet.

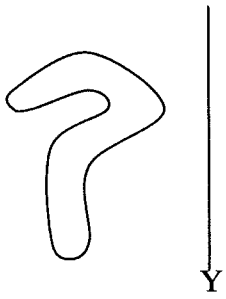
70 Bisect the angle ABC



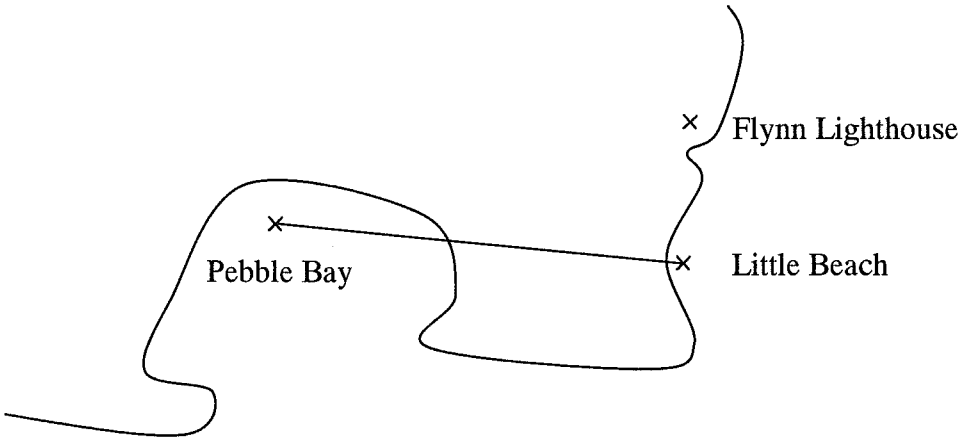
71 Draw the front view of this shape in the space below:



72 Draw the reflection of the shape through the line XY.



Use the following diagram to answer Questions 73, 74 and 75.



73 Draw the line from Pebble Bay to Flynn Lighthouse. What is the angle formed at Pebble Bay between Little Beach and Flynn Lighthouse?

					°

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74 If 1 cm = 3 km, find the distance between Flynn Lighthouse and Pebble Bay. Give your answer to the nearest kilometre.

					km

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75 Flynn Lighthouse sheds light over a 10km radius. Use a pair of compasses to draw this on your diagram.

End of Section 2 Part A

Go on to Part B
