KASLER
Kastelan & Sarnaga Learning & Educational Resources

PRACTICE PAPER 2 SCHOOL CERTIFICATE TEST

MATHEMATICS

SECTION 2

Part A

NAME

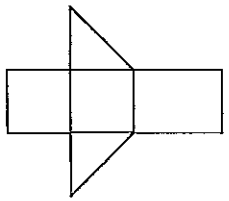
_____

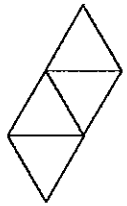
Directions for Section 2–Part A

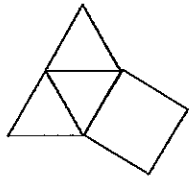
1. You have 90 minutes to answer Section 2 Part A and Part B
2. • Part A Questions 26-75 (50 marks)
   • Allow about 60 minutes to answer this part
3. Calculators may be used in this part
4. • Complete your answers to Questions 26–50 on Section 2–Part A–Answer Sheet 2
   • Complete your answers to Questions 51–69 on Section 2–Part A–Answer Sheet 3
   • Complete your answers to Questions 70–75 in this booklet
5. Write your NAME at the top of this page

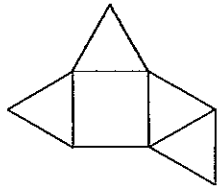
Complete your answers to Questions 26–50 on the Section 2–Part A– Answer Sheet 2.

26 Which of the following is a net for a square pyramid?

(A) 

(B) 

(C) 

(D) 

27 Kirsten works at a shop where her normal rate of pay is $5·60 per hour. If she works on Saturday she gets paid time-and-a-half.

How much will she earn for working on Saturday if she works from 1pm to 4:30pm? (Answer to the nearest cent)

(A) $8·40 (B) $29·40 (C) $33·60 (D) $56·00

28 Aluminium foil is sold if a roll that is 30cm wide and 30m long.

What is the area of the foil?

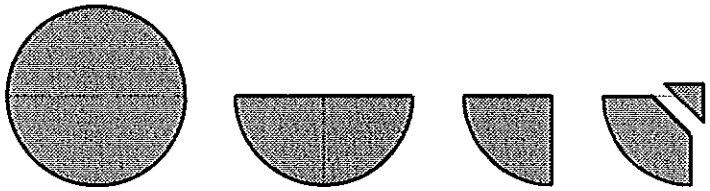
(A) $9m^2$ (B) $90m^2$ (C) $900m^2$ (D) $9000m^2$

29 The cost ($C) of producing plastic name tags is given by the formula $C = 9 + 3n$, where n is the number of name tags made.

How many name tags could be made for $45

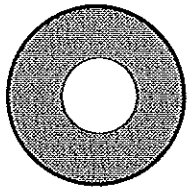
(A) 6 (B) 12 (C) 18 (D) 108

30 A paper circle is folded twice and cut so that a small piece is removed as shown.

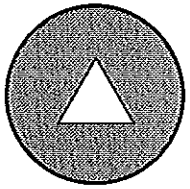


When it is opened, the circle will look closest to

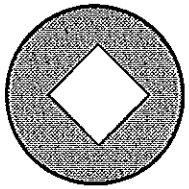
(A)



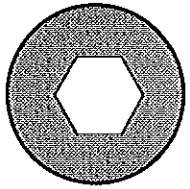
(B)



(C)

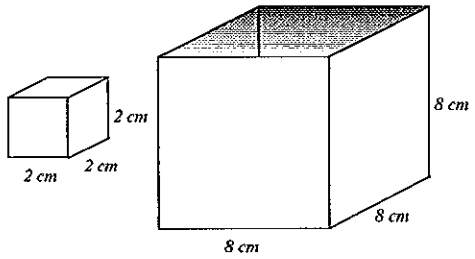


(D)



31 How many 2 cm cubes can be packed into a box which measures 8 cm by 8 cm by 8 cm?

NOT TO SCALE



(A) 16 (B) 32 (C) 64 (D) 128

32 The table shows the distance between the towns.

Sutton	1140	900	391	204
	Smithville	542	1432	943
		Tenison	953	550
			Lucas Hill	468
				Moxan

The distance between Smithville and Moxan is 943 km.
Myran travelled from Tenison to Moxan and then from Moxan to Sutton.

How far did he travel altogether?

(A) 346 km (B) 550 km (C) 754 km (D) 900 km

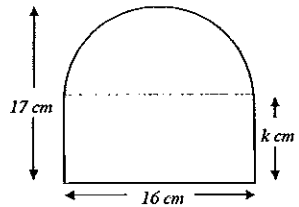
33 A computer company is offering computer and internet deals with conditions. These conditions are:

- An up front payment of $1000
- An internet connection fee of $29
- A connection for at least 2 years
- An internet access fee of $39 per month

What is the minimum cost for buying the computer and internet deal on these conditions?

(A) $1107 (B) $1965 (C) $2135 (D) $2485

34 The diagram shows a rectangle and a semicircle.



The value of k is

(A) 1 (B) 8

(C) 9 (D) 16

35

For the pattern, Kelly writes the rule, 'the number of matches used equals three times the number of triangles plus one'.

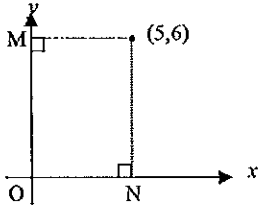
Using m = number of matches
t = number of triangles

the rule may be written as

(A) $m = 1 + 3t$ (B) $3m = t + 1$

(C) $m + 1 = 3t$ (D) $3m + 1 = t$

36 What are the coordinates of M and N?



(A) M(0,6) and N(5,0) (B) M(0,5) and N(6,0)

(C) M(6,0) and N(0,5) (D) M(5,0) and N(0,6)

37 The water leaking out of a water tank is being collected at 8 buckets per hour? Five buckets make 40 litres.

How much water will leak in 7 hours?

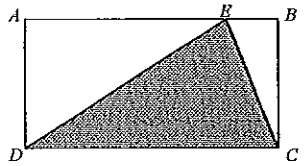
(A) 280 Litres (B) 448 Litres (C) 816 Litres (D) 1600 Litres

38 In a hurdling race, the first hurdle in a 90 metre track is 19 metres from the start. There are seven hurdles with 9 metres between the hurdles.

What is the distance from the first hurdle to the last hurdle?

(A) 54 metres (B) 63 metres (C) 73 metres (D) 82 metres

39



The area of ΔADE is 5 square metres and the area of ΔBCE is 3 square metres.

The ratio of the unshaded area to the shaded area is

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

40 Ken paid $9 for three kilograms of chicken drumsticks.
After the bones were removed there was only 1·8 kilograms of chicken meat that could be used.

What was the price per kilogram of the usable chicken meat?

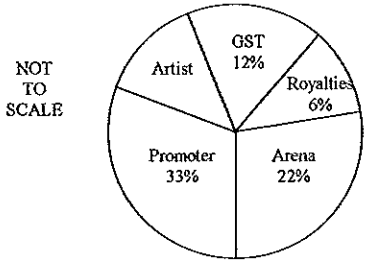
(A) $5 (B) $7·50 (C) $7·80 (D) $16·20

41 The crowd at a football match was 12 428.
This was 14% down on last weeks crowd.

The crowd last week was closest to

(A) 10 688 (B) 10 902 (C) 14 168 (D) 14 451

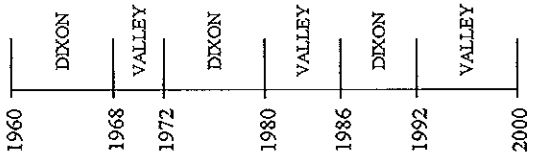
42 The graph shows how the income from the sale of a concert ticket is shared.



If $32 000 in income is raised from the entire ticket sales, how much will the artist receive?

(A) $27 (B) $8640 (C) $17280 (D) $23680

43 Two football clubs, DIXON and VALLEY had an annual rugby match. The graph below shows which school held the title from 1960 to 2000.

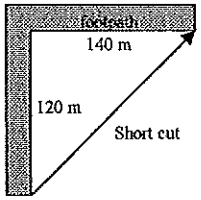


Which of the following is the closest to the percentage of time that DIXON has held the rugby title from 1960 to 2000?

(A) 35% (B) 45% (C) 55% (D) 65%

44 Rather than walking around the corner using the footpath, Jo decides to take a shortcut across the corner as shown below.

How much distance does she save by using the shortcut instead of following the footpath?



(A) 20 m

(B) 76 m

(C) 184 m

(D) 336 m

45

Central Terminal	Smith Street	Jones Ave	Mitchell Rd	Simpson St
3:05	.....	3:15	3:20	3:36
3:13	3:22	.....	.....	3:44
3:20	3:29	3:31	3:35	3:53
3:33	3:42	.....	3:38	4:06
3:48	3:57	4:01	3:53	4:21

Stanley arrives at the Central Terminal at 3:22 and waits for a bus to take him to Mitchell Rd.

What is the ***earliest*** time that he could arrive at Mitchell Rd?

(A) 3:20 (B) 3:35 (C) 3:38 (D) 3:53

46 A four sided figure has

- opposite pairs of sides equal
- a right angle

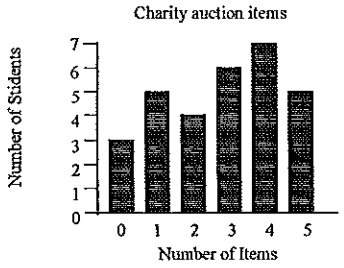
The figure must be a

(A) trapezium (C) square

(B) rhombus (D) rectangle

47 A teacher recorded the number of items her students brought in for a charity auction.

If a student was chosen at random, what would be the probability that they brought in 3 items or more?



(A) $\frac{3}{30}$

(B) $\frac{3}{5}$

(C) $\frac{27}{30}$

(D) $\frac{2}{5}$

48 Examine the equation below and its solution.

$$\begin{aligned} 4(2x+5) &= 7 && \textit{Line 1}\\ 8x+20 &= 7 && \textit{Line 2}\\ 8x &= -13 && \textit{Line 3}\\ x &= -\frac{8}{13} && \textit{Line 4} \end{aligned}$$

Which of the following statements is true?

(A) A mistake occurs from Line 1 to Line 2

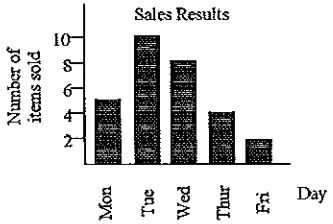
(B) A mistake occurs from Line 2 to Line 3

(C) A mistake occurs from Line 3 to Line 4

(D) There are no mistakes in this solution

49 Xavier recorded how many items he sold at his shop over five days.

The average number of items sold per day is closest to



(A) 2

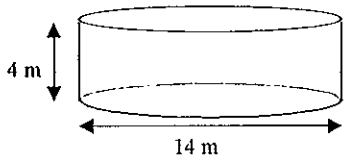
(B) 5

(C) 6

(D) 10

50 A cylindrical shaped tank is shown below.

What is the volume of water that the tank holds when it is $\frac{3}{4}$ full, rounding off to the nearest cubic metre?



(A) 462 m^3

(B) 615 m^3

(C) 1846 m^3

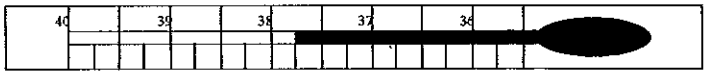
(D) 2462 m^3

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

51 Vince scored marks of 71% and 79% in two Mathematics tests.

What percentage must he score in his next test so that he has an average of 80% for the three tests?

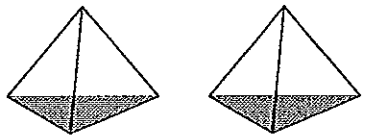
52 Write down the temperature shown on the thermometer.



53 A jug holds 2·5 litres of juice.
A glass holds 375 mL of juice.

How many glasses can be filled from THREE full jugs?

54 Two identical triangular pyramids are glued together at their base.
The base of each pyramid is shaded.

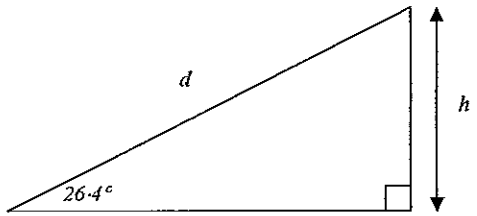


How many edges does will the new shape have?

55 Harry and Sally both get new jobs.
Harry is to be paid \$120 per day.
Sally is to be paid \$1 on her first day, \$2 on her second day, \$4 on her third day, \$8 on her fourth day and so on.

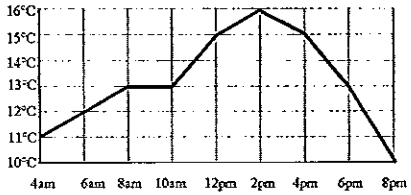
How much more will Sally earn than Harry if they both work for 11 days?

56 The MEGAFUN SLIDE is built on a slope of 26·4°.
The height h, on the scale drawing represents 60 metres.



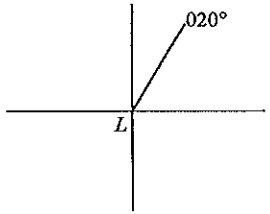
Find the distance d, to the nearest metre.

57 The graph below shows the temperature for a 16 hour period on a day.



What is the range in temperature for this period?

58 Gary is standing at a lookout L, facing a landmark on a bearing of 020°.
He turns to face another landmark on a bearing of 280°.



What is the smallest angle through which he could have turned?

59 The following stem-and-leaf plot represents the scores of a class in a test.

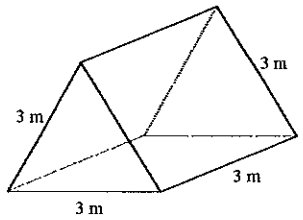
Boys		Girls
	10	0
9	9	5 7 7
0 4 5	8	4 8
4 7	7	0 2
4 7 9	6	5 5
1 4	5	2 8
8	4	9

What is the mean score for the boys?

60 In a furniture shop the cost of a table and four chairs is $305.
The cost of a different package that includes a table and six chairs is $415.

Find the cost of one table.

61 Each triangular face of the prism has an area of 3·9 m^2.



Calculate the total surface area of the prism.

62 The cost of buying pre mixed concrete is given in the table below.

CONCRETE COSTS
$30 delivery fee plus $127 per cubic metre

Christian paid $474·50 for concrete.

How many cubic metres did he receive?

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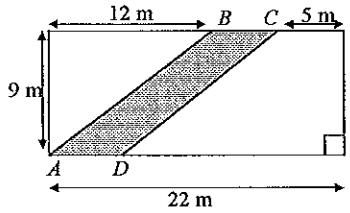
63 A country has a population of 8·3 million.
This number increases at a rate of 25 thousand per year for six years.

What is the population at the end of the six years?

64



NOT TO SCALE

ABCD is a parallelogram formed inside a rectangle with length 22 metres and width 9 metres.

Find the perimeter, in metres, of the parallelogram *ABCD*.

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.

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65 Which of the following are equal to 70%?

(A) $\frac{7}{10}+\frac{7}{100}$ (B) 0·7

(C) 70 out of 100 (D) $100 \times 0{\cdot}7$

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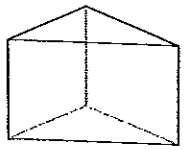
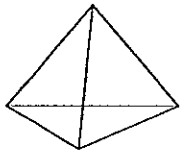
66 Which of these solids are prisms?

(A)

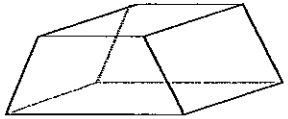


(B)



(C)

(D)



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67 For which of the following equations will the solution be $x = 6$.

(A) $2x + 8 = 4$ (B) $10^2 = x^2 + 8^2$

(C) $\frac{4x}{3} = 8$ (D) $\sqrt{16 \times 9} = 2x$

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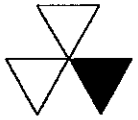
68 Which of the following represent $\frac{1}{3}$?

(A)

(B)

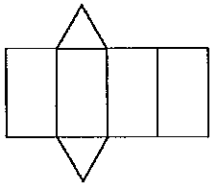
(C)

(D)

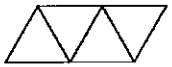


69 Which of the following nets will form a triangular prism when folded together?

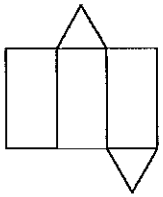
(A)



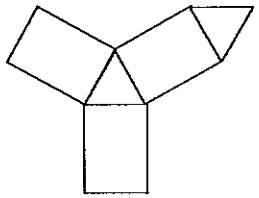
(B)



(C)



(D)



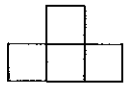
End of questions in Section 2 Part A that may require you to fill in more than one correct answer.

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

70 Three views of a three-dimensional shape are shown below.

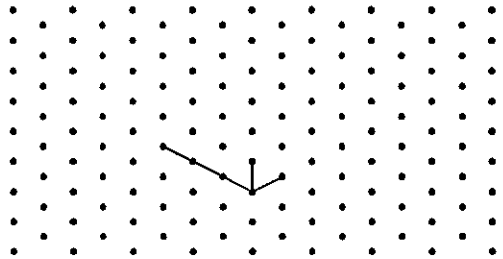
Top view

Side view

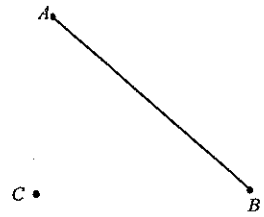


Front view

Complete the drawing of this shape.



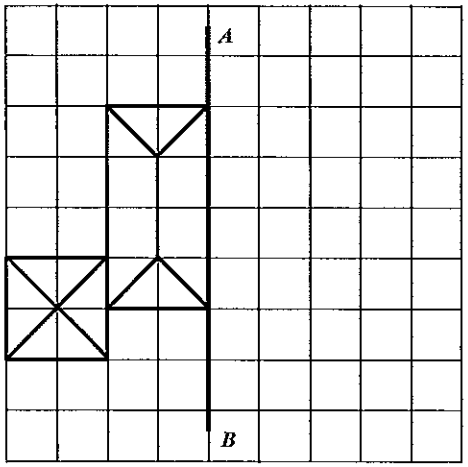
71



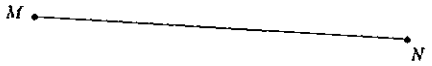
Complete the diagram to draw the perpendicular to AB passing through C.

72 The diagram shows the top view of the position of a house on a block. The position of the house is to be changed by reflecting it through the line AB.

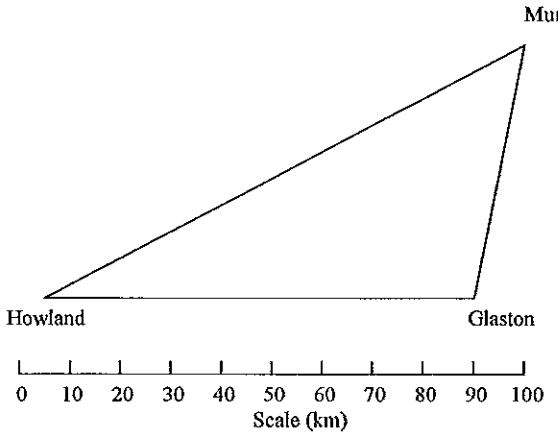
Accurately draw the new position of the house on the diagram below



73 Use geometrical instruments to find a point 6 cm from M and 5 cm from N. Mark this point clearly with an X and label it P



Use the following diagram to answer Questions 74 and 75



74 The town of Noree lies on the road from Muras to Howland.
The road from Glaston to Noree is to bisect the angle made by the roads meeting at Glaston.

Use geometrical instruments to draw the road from Glaston to Noree.

75 Find the minimum distance you could travel if you started at Glaston and then travelled to Howland, then to Muras and home to Glaston again.

Round your answer to the nearest 5 km.

							km