VICTORIAN CURRICULUM AND ASSESSMENT AUTHORITY

AIM 2006

Achievement Improvement Monitor

Year 9

STATEWIDE ASSESSMENT

MATHEMATICS TEST 2

STUDENT DETAILS

TEST INSTRUCTIONS

1. You must do your own work.
2. Do not speak to other students during the test.
3. Raise your hand if you need to speak to the teacher.
4. Follow all directions given to you by the teacher.
5. All questions must be answered using the pencil you have been given. If you need to change an answer, carefully erase it and write another answer.
6. You are not permitted to use a calculator.
7. To confirm you have the correct booklet, print your name below.

Print your name here:

YOU HAVE 40 MINUTES TO COMPLETE THIS TEST.

Victoria The Place To Be

Year 9 Mathematics – You have 40 minutes to complete this test. Students are NOT permitted to use calculators.

Task 1 – The Games

The following information is needed for questions 1 and 2.

6000 athletes and officials will attend the 2006 Games.
4500 of these are athletes.

1 How many officials will there be?

Write your answer in the box

officials

2 What percentage of the 6000 athletes and officials are athletes?

%

The table below shows the costs of tickets to watch the finish of the marathon.

Level A	Level B
$30	$20

Kara spent a total of $240 on nine tickets.

3 How many **Level A** tickets did she purchase?

Level A tickets

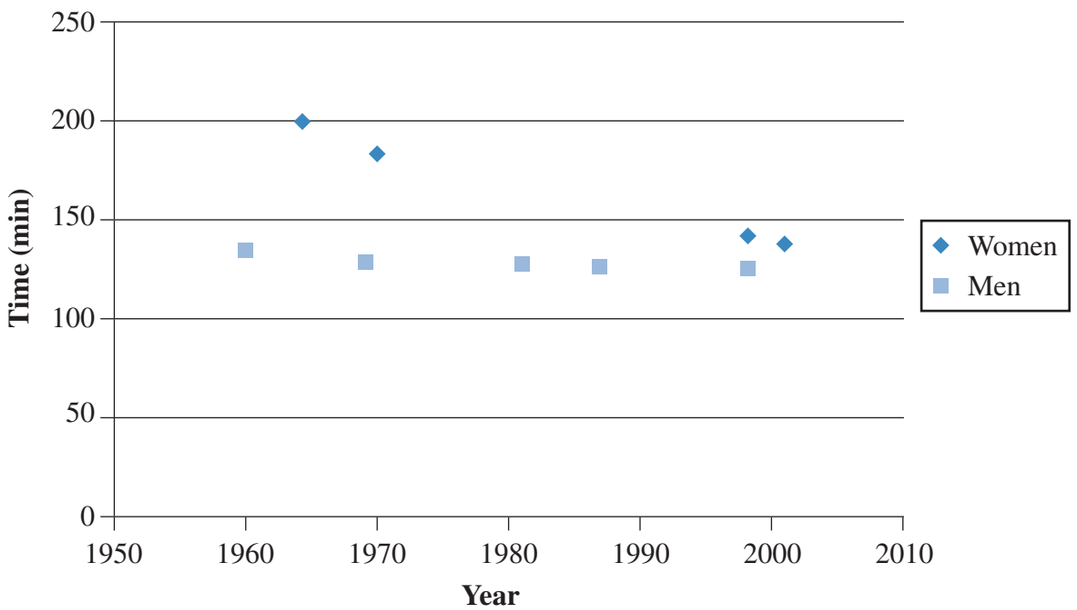
The following information is needed for questions 4 and 5.

Men's and Women's Marathon Times

MEN'S MARATHON RECORDS		
Year	**Time (h:m:s)**	**Time (nearest min)**
1960	2:15:16	135
1969	2:08:33	129
1981	2:08:18	128
1988	2:06:50	127
1998	2:06:05	126

WOMEN'S MARATHON RECORDS		
Year	**Time (h:m:s)**	**Time (nearest min)**
1964	3:19:33	200
1970	3:02:53	183
1980	2:25:41	146
1998	2:20:47	141
2001	2:18:47	139

Nine of the ten records above have been plotted on the graph below.



4 On the graph, circle the point which shows the men's marathon record for 1960.

Draw your answer on the graph

5 One of the records is missing from this graph.
Carefully plot (×) the missing record on this graph.

6 In 2003, both the men's and women's marathon records were broken.

Write your answers in the boxes

Complete the tables below by converting both times to the nearest minute.

MEN'S MARATHON RECORD		
Year	**Time (h:m:s)**	**Time (nearest min)**
2003	2:04:55	

WOMEN'S MARATHON RECORD		
Year	**Time (h:m:s)**	**Time (nearest min)**
2003	2:15:25	

The following information is needed for questions 7 and 8.

The medal tally for the top three nations from the 2002 Games is shown in the table below.

7 The **totals** in the table are correct, but one of the other numbers in the table is **not** correct.

Write your answer in the box

MEDAL TALLY 2002				
	Gold	**Silver**	**Bronze**	**Total**
Australia	82	62	63	**207**
England	54	51	60	**165**
Canada	31	40	44	**116**
Total	**167**	**154**	**167**	**488**

The incorrect number in the table is

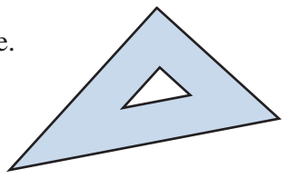
8 Which country had a ratio closest to 4:3 of gold to silver medals in 2002?

Shade one bubble

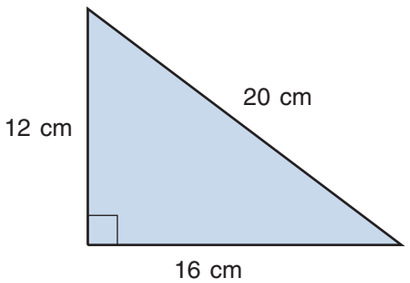
- ○ Australia
- ○ England
- ○ Canada

Task 2 – The Set Square

Harry wants to make a set square.



He starts with a piece of wood this size.

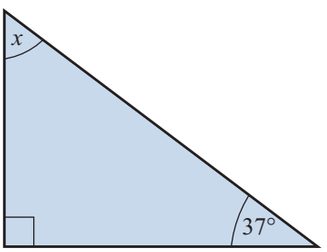


9 What is the area of the piece of wood?

Write your answer in the box

$\square$ cm^2

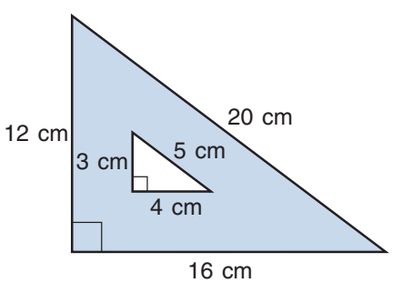
Harry measures one of the angles to be 37° as shown.



10 What is the size of the angle marked x?

$x =$ $\square$ °

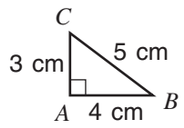
Harry cuts a triangle out of the middle of the piece of wood.
The shaded region is a sketch of the finished set square.

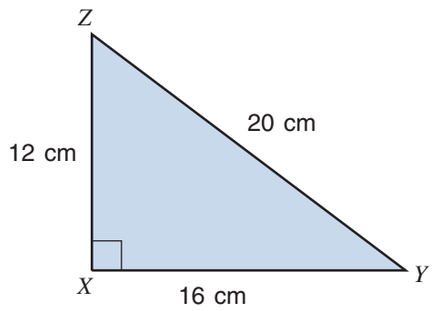


11 What is the area of the shaded region?

$\square$ cm^2

The cut out triangle, *ABC*, is similar to the original piece of wood, *XYZ*.



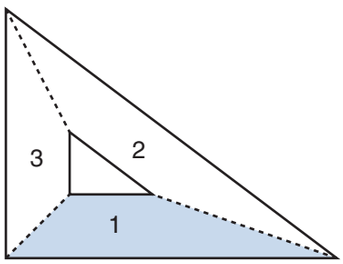


12 What is the scale factor of the enlargement of triangle *ABC* to triangle *XYZ*?

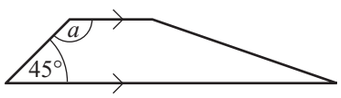
Scale factor = 1 : ☐

Write your answer in the box

Jody thinks it might be easier to make the set square in 3 pieces.
Each piece is a trapezium.



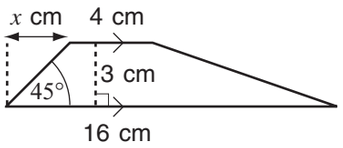
A sketch of piece 1 is shown below.



13 What is the size of the angle marked *a*?

a = ☐ °

This sketch shows some of the lengths that Jody measures on piece 1.



14 What is the size of the length marked x cm?

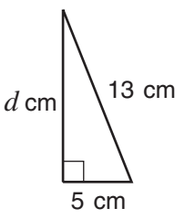
Write your answer in the box

cm

15 What is the area of this trapezium?

cm^2

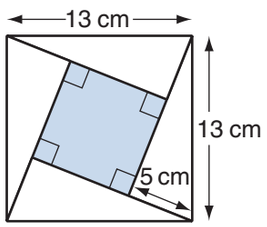
Len is making a puzzle.
A sketch of one of the pieces is shown below.



16 What is the length of the side marked d cm?

$d =$ cm

There are 5 pieces to the puzzle.
Four are congruent triangles and the fifth is a square.
They have to be arranged to make a 13 cm square as shown below.



17 Use your answer from Q16 to calculate the area of the shaded square in the above diagram.

cm^2