VICTORIAN CURRICULUM AND ASSESSMENT AUTHORITY

STATEWIDE ASSESSMENT

AIM 2007

Achievement Improvement Monitor

Year 7

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 of any type.
7. To confirm you have the correct booklet, print your name below.

Print your name here:

YOU HAVE 40 MINUTES TO COMPLETE THIS TEST

© Copyright 2007 Victorian Curriculum and Assessment Authority. All rights reserved. Except under the conditions described in the *Copyright Act 1968* and subsequent amendments, no part of this publication may be reproduced by any process without permission in writing from the publishers.

Victoria
The Place To Be

You have 40 minutes to complete this test.
You are NOT permitted to use a calculator of any type.

Task 1 – Post Office

Questions 1 and 2 refer to the information below.

The table shows the postage rates to send packages between Australian capital cities.

Postage rates between Australian capital cities

Mass of package	0.200 kg or less	0.201 kg to 0.5 kg	0.501 kg to 1 kg	1.001 kg to 2 kg	2.001 kg to 5 kg
Cost	$3.20	$4.50	$7.50	$9.50	$12.50

1 Josh sends a package with a mass of 960 g.

How much does it cost Josh to send the package?

Write your answers in the boxes

$ ☐

---

2 Madison sends two packages. One package has a mass of 180 g and the other package has a mass of 1700 g.

a. How much does it cost Madison to send the two packages? $ ☐

b. How much change does Madison receive from $50.00? $ ☐

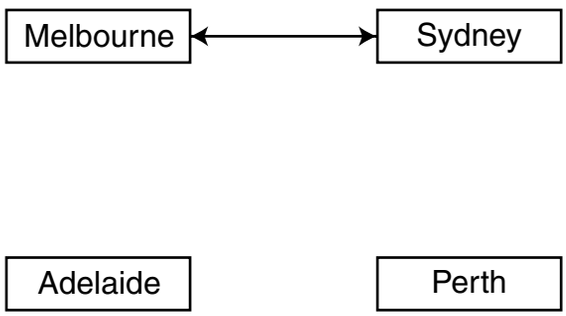
---

3 Four Australian capital cities are shown below.

Mail is sent directly between each city.

Draw lines (with the directions marked with arrows) to show all the possible ways that mail can be sent directly from each city to each other city.
(One line has already been drawn).

Draw lines on the diagram



Questions 4, 5 and 6 refer to the information below.

The table shows the postage rates for sending packages overseas by different methods.

The postage rate for each package depends on its mass and the method by which it is sent.

The amounts in the table form number patterns, both down the columns and across the rows.

Postage rates for sending packages overseas

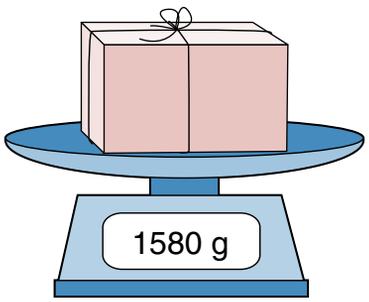
Mass of package	sea	surface mail	air mail	air express
less than 0.5 kg	$4.00	$6.00	$8.00	$10.00
0.501 kg to 1 kg	$6.50	$9.75	$13.00	$
1.001 kg to 2 kg	$	$13.50	$18.00	$22.50
2.001 kg to 5 kg	$11.50	$17.25	$23.00	$28.75
5.001 kg to 20 kg	$14.00	$21.00	$28.00	$35.00

4 Write the missing amounts in the table.

Complete the table

---

5 Angela sends this package overseas using **surface mail**.



How much does it cost Angela to send the package?

$ ____

Write your answers in the boxes

---

6 Max sends a package overseas from Melbourne, Australia to Berlin, Germany.
The package has a mass of less than 3 kilograms. The cost to send the package is $28.75.

What is one possible mass, in kilograms, of Max's package?

____ kg

When it is 2:00 pm on Monday in Melbourne, it is 6:00 am on Monday in Berlin.

7 Max posts his package in Melbourne on Monday at 2:00 pm (Melbourne time).
It arrives in Berlin at 3:00 pm (Berlin time) on Wednesday of the same week.

What day and time is it in Melbourne when the package arrives in Berlin?

Day

Time

Write your answers in the boxes

---

8 From the time Max posts his package in Melbourne, how many hours does it take for it to arrive in Berlin?

hours

Task 2 – Mystery Number

A mathematics class is playing a *mystery number* game.

The teacher writes the following numbers on the board.

670	671	672	673	674	675
680	681	682	683	684	685
690	691	692	693	694	695

9 Robyn chooses one of the numbers at random.

What is the probability that the number contains the digit 3, or the digit 8, or both?

[ ] in **18**

Write your answers in the boxes

---

10 David chooses one of the numbers at random.

He gives the class a clue about his number.

Clue 1: The number contains the digit 1, but not the digit 7.

Emma guesses David's number using Clue 1.

What is the probability that she guesses the correct number?

[ ] in [ ]

---

11 David gives the class a second clue about his number.

Clue 2: The number is divisible by 3.

What is David's number? [ ]

---

12 Helena also chooses a number.

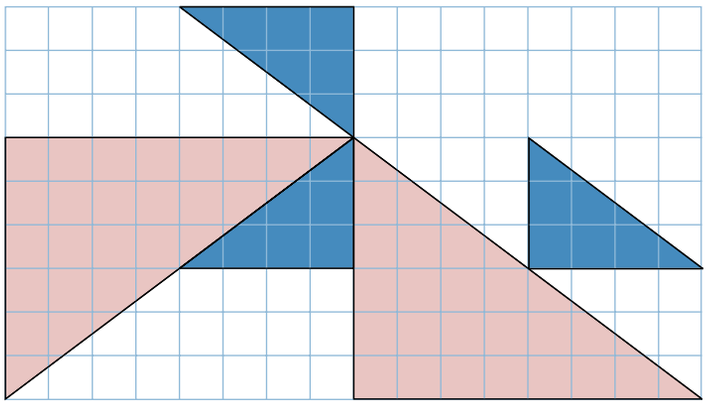
She gives the class one clue about her number.

Clue: The number is between two numbers in the same row that add up to 1366.

What is Helena's number? [ ]

Task 3 – Triangle Grids

Sue is using two different sizes of right-angled triangles to fill this grid.
So far she has placed two large triangles and three small triangles on the grid.



13 What is the area of one of Sue's small triangles?

Write your answers in the boxes

☐ square units

---

14 What is the ratio of the area of the small triangle to the area of the large triangle?

☐ : ☐

---

15 What is the area **not** covered by Sue's shaded triangles in the grid?

☐ square units

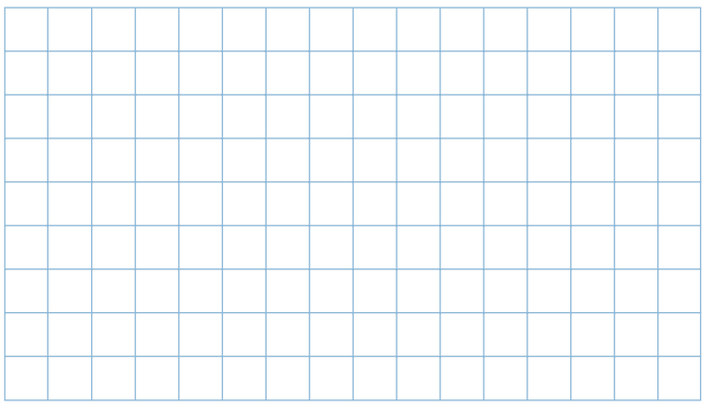
---

16 How many small triangles are needed to fill the rest of the grid?

☐ small triangles

17 Jeff has a grid the same size as Sue's grid. He also has small triangles and large triangles. His triangles are the same size as Sue's small and large triangles.

Jeff wants to use the **minimum** number of triangles to fill the grid.



Draw the triangles on the grid

Draw the triangles he will need to use on the grid.

He will need to use ☐ small triangles

and ☐ large triangles to fill his grid.

Write your answers in the boxes

© NCS Pearson 14689