



AIM 2006

Achievement Improvement Monitor

Year
7

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.

Year 7 Mathematics – You have 40 minutes to complete this test.

Students are NOT permitted to use calculators.

Task 1 – School Holiday Activities

Some Year 7 students use the bus timetable below to plan activities for the first day of the school holidays. The timetable uses the 24 hour clock.

BUS STOP	TIMETABLE						
Apple Grove	10:53	11:28	12:03	12:24	12:34	13:09	13:44
Blake Avenue	10:59	11:34	12:09	12:30	12:40	13:15	13:50
College Close	11:03	11:38	12:13	12:34	12:44	13:19	13:54
Dove Drive	11:08	11:43	12:18	12:39	12:49	13:24	A
Oak Street	11:11	11:46	12:21	12:42	12:52	13:27	14:02
Green's Reserve	11:19	11:54	12:29	12:50	13:00	13:35	14:10
Fair Hills Plaza	11:24	11:59	12:34	12:55	13:05	13:40	14:15

1

The bus timetable has a missing time, which is shown as **A**.

Written in 24 hour time, the missing time (**A**) is .

Write your answer
in the box

2

How long is the trip from Apple Grove to Green's Reserve?

minutes.

3

The bus takes 12 minutes to travel between two of these stops.

The two stops are

and .

Write your answers
in the boxes

4

Marc and Jane want to play tennis. To get to the tennis court they need to catch a bus from Apple Grove to Green's Reserve.

It takes 15 minutes to walk from the bus stop at Green's Reserve to the tennis court.

What is the latest time Marc and Jane can catch a bus at Apple Grove

so that they can be at the tennis court before 1:00 pm?

Write your answer
in the box

Other students want to go to the movies at the Oak Street Cinema. The session times for movies shown during the day are given below.

Movie	Running Time	Session Times		
Squared	120 minutes	10:30 am	3:30 pm	***
Solutions	90 minutes	10:45 am	1:10 pm	3:20 pm
Countdown	165 minutes	11:00 am	2:50 pm	***
Directions	100 minutes	11:20 am	1:20 pm	***
Maximum	70 minutes	11:30 am	1:30 pm	3:00 pm

Use these session times and the bus timetable on Page 2 to answer Questions 5 to 7.

5

Gary catches the bus from Blake Avenue at 10:59 am and gets off at Oak Street. The Oak Street bus stop is right outside the cinema and Gary goes straight from the bus stop into the cinema.

Write your answer
in the box

What is the name of the next movie to start when he arrives at the cinema?

6

Kira and Phil watch the 11:00 am session of *Countdown*.

After the movie they catch the next bus to Fair Hills Plaza.

What time do they arrive at Fair Hills Plaza?

7

Carla arrives at the cinema at 2:45 pm. She has to meet her mother outside at 4:30 pm.

Which movie could she watch, in full, before meeting her mother?

8

Movie tickets normally cost \$7.00 each. There is a 10% discount on books of ten tickets.

The discounted cost of a book of ten tickets is \$

9

Kira and Phil bought a tub of popcorn and two drinks for a total cost of \$6.10. Carla bought a tub of popcorn and one drink for a total cost of \$4.30.

Write your answers
in the boxes

What is the cost of

a. one drink?

\$

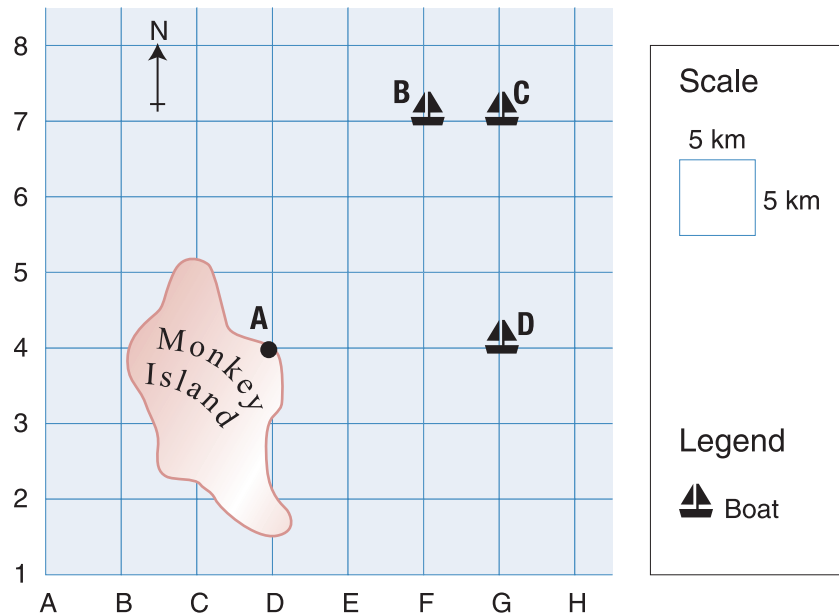
b. one tub of popcorn?

\$

Task 2 – Boat Tours

The Gull Boat Company is based at Anston (**A**) on Monkey Island. The company runs sightseeing tours.

The current positions of their three boats *Bella* (**B**), *Captain Jane* (**C**) and *Delta* (**D**) are shown on the grid.



Questions 10 to 15 refer to current positions of the boats.

10 The grid reference of the *Bella* is .

Write your answer
in the box

11 In what direction is Anston **from** the *Captain Jane*?

12 Which boat is closest to Anston?

13 How far apart are the *Captain Jane* and the *Delta*? km

14 There is a shipwreck on the ocean floor due south of the *Bella* and five kilometres from the *Delta*.

Draw a cross
on the grid

Mark the position of the shipwreck on the grid with a cross (×).

15 The *Delta* is travelling directly towards Anston at an average speed equivalent to 20 km/hr.

Write your answer
in the box

How many minutes will it take to reach Anston? minutes

Questions 16 to 18 refer to the following information.

The *Bella* leaves Anston at 1:20 pm for a trip to a reef 16 kilometres away.

The trip to the reef takes one hour.

The *Bella* stops at the reef for 50 minutes for the passengers to swim, before returning to Anston.

Halfway back, the *Bella* stops for 10 minutes to view whales.

The *Bella* returns to Anston at 4:40 pm.

16

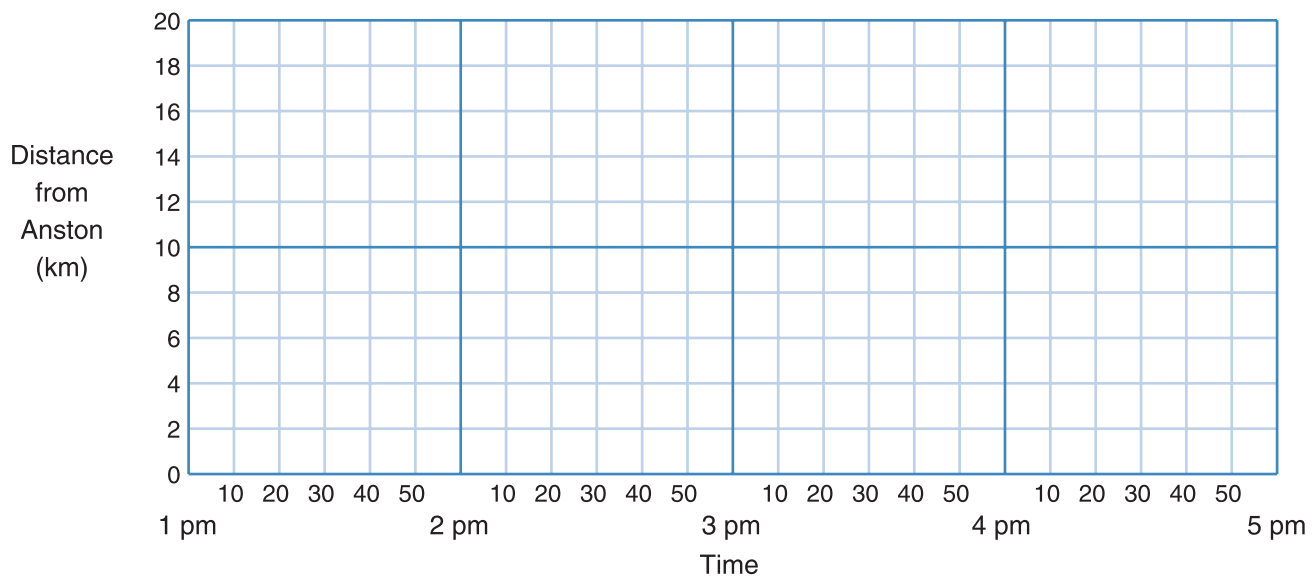
The *Bella* arrives at the reef at pm and leaves the reef at pm.

Write your answers in the boxes

17

Draw a travel graph for the *Bella's* trip on the grid below.

Draw your answer on the graph



18

Use your answer from Question 17 to complete the following sentence.

Write your answers in the boxes

The *Bella* stopped to view whales from

pm to pm.

19

The *Delta* can carry three times as many passengers as the *Bella*.
Together the *Delta* and the *Bella* can carry 400 passengers.

How many passengers does the *Bella* carry?

passengers.

Write your answer
in the box

20

The profit made on each trip by the *Captain Jane* is given
by the equation

$$P = 40x - 1200$$

where P is the profit in dollars and x is the number of passengers.

Write your answers
in the boxes

- a. What is the profit if the *Captain Jane* carries 100 passengers?

\$

- b. A 'break even point' is when the profit equals zero dollars ($P = 0$).

The number of passengers required for the *Captain Jane* to reach its 'break even point'
is passengers.

