1 What is the time 2 hours 40 minutes after 8.05 am?

hours ↘ ↙ minutes

8 : 05 a.m

\+ 2 : 40

10 : 45 a.m

10 . 45 (1) ..... am

(Total for Question 1 is 1 mark)

2 (a) Write 196 minutes in hours and minutes.

1 hour = 60 minutes

= 196 minutes ÷ 60 minutes (1)

= 3 hr 16 mins

(1)

3 hours

60 | 196

180

16 minutes

3 hours 16 minutes

(2)

A train travels x miles in 2 hours.

miles is a unit for distance, hours is a unit for time

(b) Write down an expression, in terms of x, for the average speed of the train.

speed = distance / time

x miles ÷ 2 hrs

$= \frac{x}{2}$ miles per hour (1)

$\frac{x}{2}$ miles per hour

(1)

(Total for Question 2 is 3 marks)

3 Elena spent 120 minutes at a sports centre.

She played badminton for 50 minutes.

She used the swimming pool for $\frac{1}{6}$ of the 120 minutes.

She used the gym for 20% of the 120 minutes.
She then spent the rest of the 120 minutes in the cafe.

(a) Work out the total time, in minutes, that Elena spent in the cafe.

Finding time Elena spends swimming :

$\frac{1}{6} \times 120$ minutes = 20 (1)

Time spent at the gym :

$\frac{20}{100} \times 120$ minutes = 24 (1)

Time spend (badminton + swimming + gym) :

50 + 20 + 24 = 94 minutes

Time spent at cafe :

120 - 94 = 26 (1)

26 (1) minutes

(4)

Elena got to the sports centre at 1.30 pm.
She had asked her friend to meet her in the cafe at 3 pm.

(b) Did Elena get to the cafe by 3 pm?
Give a reason for your answer.

1.30 pm + 94 mins = 3.04 pm

No, she was 4 mins late. (1)

(1)

(Total for Question 3 is 5 marks)

4 Here is part of a bus timetable between Wigan and Bolton.

Wigan	0720		0740		0755
Blackrod	0749		0809		0824
Horwich	0800	0814	0820	0829	0836
Lostock	0809	0820	0829	0837	0844
Park Road	0814	0834	0841	0848	0858
Bolton	0832	0851	0858	0905	0915

(a) How many minutes should the 0720 bus take to go from Wigan to Lostock?

7 6
~~08~~ : ~~09~~
− 07 : 20
0 : 49

The bus will be at Lostock at 0809.

From Wigan to Lostock = 08:09 − 07:20 (1)
= 0:49
= 49 minutes

49 (1) ..... minutes

(2)

Alison goes from Blackrod to Bolton by bus.

One day Alison leaves her house at 0800
She takes 7 minutes to walk to the bus stop in Blackrod.
She takes 15 minutes to walk from the bus stop in Bolton to work.

Alison needs to be at work for 0920

(b) Will Alison get to work for 0920?
You must show how you get your answer.

House → Blackrod bus stop → Bolton bus stop → Work

(1) Alison arrives at Blackrod bus stop at: 0800 + 7 minutes = 0807 (1)

(2) Alison boards the bus at 0809 (nearest one to 0807) (1)

(3) Alison arrives at Bolton bus stop at 0858

(4) Alison walks to work for 15 minutes. She arrives at work at: 0858 + 15 min = 0913

Yes. Alison arrives before 0920. (1)

(3)

(Total for Question 4 is 5 marks)