



1

- a. Write 4:35 pm as a 24-hour clock time.
- b. Write 23:05 as a 12-hour clock time using am or pm.
- c. Write 00:40 as a 12-hour clock time using am or pm.

(3 marks)

a) pm: add 12 to the hour

$$4 + 12 = 16$$

16:35

b) after 12:00, so take away 12

$$23 - 12 = 11$$

11:05 pm

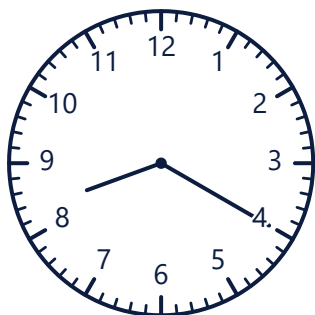
c) 00 is the hour just after midnight

12:40 am

2

The clock shows a time in the evening.

- Write down the time using the 12-hour clock.
- Write down the time using the 24-hour clock.



(2 marks)

a) minute hand on 4

$4 \times 5 = 20$ minutes past

hour hand just past 8

8:20 pm

b) pm: add 12

$8 + 12 = 20$

20:20

3

On the clock face, draw the hour hand and the minute hand to show the time quarter to four.



(2 marks)

quarter to four = 3:45

$45 \div 5 = 9$, so the minute hand points at 9

hour hand: 45 minutes is $\frac{3}{4}$ of an hour

so it is $\frac{3}{4}$ of the way from 3 to 4

Long hand on 9, short hand just before 4

4

Change 380 minutes into hours and minutes.

(2 marks)

$$6 \text{ hours} = 6 \times 60 = 360 \text{ minutes}$$

$$380 - 360 = 20 \text{ minutes}$$

$$380 \text{ minutes} = 6 \text{ hours } 20 \text{ minutes}$$

6 hours 20 minutes

5

A film starts at 19:35 and lasts 50 minutes.

Write down the time the film finishes.

(1 mark)

$$19:35 + 25 \text{ minutes} = 20:00$$

$$20:00 + 25 \text{ minutes} = 20:25$$

The film finishes at 20:25

20:25

- 6 Maryam spends 2 hours 48 minutes on homework on Saturday and 1 hour 37 minutes on Sunday. How much time does she spend on homework altogether? Give your answer in hours and minutes. (2 marks)

hours

$$2 + 1 = 3 \text{ h}$$

minutes

$$48 + 37 = 85 \text{ min}$$

$$85 \text{ min} = 1 \text{ h } 25 \text{ min}$$

$$3 \text{ h} + 1 \text{ h } 25 \text{ min} = 4 \text{ h } 25 \text{ min}$$

4 hours 25 minutes

- 7 Aisha finished a swimming session at 16:10.
The session lasted 1 hour 35 minutes.
Work out the time the session started.

(2 marks)

Count back 1 hour from 16:10 to get 15:10

Count back 35 minutes from 15

$$10: 15:10 - 10 \text{ minutes} = 15:00, \text{ then } 15:00 - 25 \text{ minutes} = 14:35$$

Check

$$14:35 + 1 \text{ hour } 35 \text{ minutes} = 16:10$$

14:35

- 8 A delivery van leaves a depot at 10:47 and arrives at a warehouse at 13:12 on the same day.
Work out the length of the journey in minutes.

(2 marks)

From 10:47 to 11:00 is 13 minutes

From 11

$$00 \text{ to } 13:00 \text{ is } 2 \text{ hours} = 120 \text{ minutes}$$

From 13:00 to 13:12 is 12 minutes

$$13 + 120 + 12 = 145 \text{ minutes}$$

145

9

You may use a calculator with a degrees-minutes-seconds button ($^{\circ} ' ''$).

- Write 2.4 hours in hours and minutes.
- Write 3 hours 50 minutes as a number of hours, correct to 2 decimal places.
- Write 1.29 hours in hours, minutes and seconds.

(3 marks)

a) type 2.4 then press $^{\circ} ' ''$

$$0.4 \times 60 = 24 \text{ min}$$

2 h 24 min

b) enter $3^{\circ} ' '' 50^{\circ} ' ''$, press = then $^{\circ} ' ''$

$$50 \div 60 = 0.8333...$$

$$3 + 0.8333... = 3.8333...$$

3.83 hours

c) type 1.29 then press $^{\circ} ' ''$

$$0.29 \times 60 = 17.4 \text{ min}$$

$$0.4 \times 60 = 24 \text{ s}$$

1 h 17 min 24 s

10

Here is part of the morning timetable for the bus to Hillside School.

	Bus 1	Bus 2	Bus 3
Park Road	07:45	08:05	08:25
Library	07:52	08:12	08:32
High Street	08:01	08:21	08:41
Hillside School	08:14	08:34	08:54

- How many minutes does Bus 1 take to get from Park Road to Hillside School?
- Kofi gets to the Library stop at 08:05. He must be at school by 08:40. Which bus should he catch, and how long does he wait at the stop?
- One morning Bus 3 is running 12 minutes late at every stop. At what time does it arrive at the school?

(4 marks)

a) 07:45 to 08:14

07:45 to 08:00 = 15 min

08:00 to 08:14 = 14 min

15 + 14 = 29

29 minutes

b) Bus 1 left the Library at 07:52

Bus 2: Library 08:12, school 08:34 (before 08:40)

08:05 to 08:12 = 7 min

Bus 2, waits 7 minutes

c)

08:54 + 12 min = 09:06

09:06

- 11 Sports day at Hillside School starts at 09:15
There are five events. Each event lasts 35 minutes.
There is a 10 minute break between one event and the next.
At what time does the last event finish?

(3 marks)

$$5 \times 35 = 175 \text{ min}$$

4 breaks between 5 events

$$4 \times 10 = 40 \text{ min}$$

$$175 + 40 = 215 \text{ min}$$

$$215 \text{ min} = 3 \text{ h } 35 \text{ min}$$

$$09:15 + 3 \text{ h} = 12:15$$

$$12:15 + 35 \text{ min} = 12:50$$

12:50

- 12 Here is part of a train timetable from Ashville to Redmoor.

	Train A	Train B	Train C
Ashville (depart)	08:35	09:05	09:40
Redmoor (arrive)	09:42	10:08	10:51

Maya has a meeting in Redmoor at 10:15.

It takes her 12 minutes to walk from Redmoor station to the meeting.

- Which is the latest train Maya can catch from Ashville to be at the meeting on time?
- How many minutes early for the meeting will she be?

(5 marks)

Train B arrives at 10

08. $10:08 + 12 \text{ minutes} = 10:20$, which is after 10:15, so Train B is too late

Train A arrives at 09

42. $09:42 + 12 \text{ minutes} = 09:54$, which is before 10:15, so Train A works

The latest suitable train is Train A, departing 08:35

From 09:54 to 10:15 is 21 minutes, so she is 21 minutes early