Chapter 4

Exercise 1

1. Change the following 12 hour clock times to 24 hour clock times:
   (a) 9:30 am
   (b) 3:40 am
   (c) 5 am
   (d) 2:40 pm
   (e) 5:35 pm
   (f) 10 at night
   (g) 7:45 am
   (h) 9:55 pm
   (i) 10 past 2 in the morning
   (j) 8:43 am
   (k) noon
   (l) 12:25 am
   (m) 12:40 pm
   (n) 11:20 pm
   (o) 3:35 am
   (p) 9:10 pm
   (q) 10:25 pm
   (r) twenty past eleven at night

2. Change the following 24 hour clock times to 12 hour clock times:
   (a) 0530
   (b) 1050
   (c) 0945
   (d) 1745
   (e) 1940
   (f) 2325
   (g) 0140
   (h) 1645
   (i) 2020
   (j) 2112
   (k) 1200
   (l) 0350
   (m) 0245
   (n) 1425
   (o) 2145
   (p) 2305
   (q) 0010
   (r) 0707

3. Britannia flight BY515N left Tenerife Airport at 11:45 pm and landed at Edinburgh at 4:15 am the following day.
   (a) Write these times in 24 hour form.
   (b) How long was the journey?

4. The Royal Scot train left Glasgow Central at 7:55 am and arrived at Brighton at 3:05 pm.
   (a) Write these times in 24 hour form.
   (b) How long did the journey take?

5. Howard set sail in his yacht on Wednesday at 10:30 pm. He reckoned he would not see land for another 2 days and 2 hours.
   On which day did Howard expect to see land and what time would it then be?
Exercise 2

1. How long is it from :- (show how you used “counting on” to obtain your answer)
   (a) 4·05 pm to 7·05 pm
   (b) 7 am to 11·30 am
   (c) midday to 5·30 pm
   (d) 8·30 pm to 11·35 pm
   (e) 7·55 am to 9·25 am
   (f) 2·40 am to 8·10 am
   (g) 0820 to 1115
   (h) 1955 to 2120
   (i) 1750 to 2105
   (j) 2240 to 0300 (next day)

2. The film “Mission Possible” started at 2015 and lasted for 1 hour 55 minutes.
   At what time did it finish?

3. The two clocks show the times when a kiddies’ magic show is due to start.

   ![Clocks](image)

   How long is it between the starting times?

4. Joe set off on the Auchtentiber Marathon at 9·35 am.
   He arrived at the finish line at 1·10 pm.
   How long had Joe taken to run the marathon?

5. An old single-deck bus runs on a circular route around Millport.
   It leaves the pier at 0910 and passes it again at 0945.
   (a) Calculate the time taken for 1 circuit of Millport.
   (b) When should the bus next pass the pier?
   (c) How many complete circuits can it make between 8 am and 4 pm?

6. There’s a village doughnut-eating competition to see which local contestant can eat 50 doughnuts the quickest.
   Amy started at 1445 and finished eating at 1522.
   Billy began at 2·52 pm and finished eating at half past three.
   Who was quicker and by how much?
Exercise 3

1. Change the following times into **minutes** and **seconds** :-
   (a) 70 seconds  
   (b) 90 seconds  
   (c) 120 seconds  
   (d) 140 seconds  
   (e) 180 seconds  
   (f) 200 seconds  
   (g) 240 seconds  
   (h) 255 seconds  
   (i) 310 seconds

2. Change the following times into **hours** and **minutes** :-
   (a) 90 minutes  
   (b) 130 minutes  
   (c) 170 minutes  
   (d) 190 minutes  
   (e) 230 minutes  
   (f) 300 minutes  
   (g) 380 minutes  
   (h) 430 minutes  
   (i) 560 minutes

3. Copy the following and complete :-
   (a) 4 mins 50 secs  
   + 2 mins 30 secs  
   (b) 6 mins 30 secs  
   - 3 mins 40 secs

4. The first 3 tracks on a CD lasted :-
   3 minutes 30 seconds, 3 minutes 45 seconds and 4 minutes 10 seconds.
   How long did these 3 tracks last altogether ?

5. Eric Shoemaker's final two laps in the Canadian Grand Prix were :-
   2nd last lap = 2 minutes 45 seconds  
   Last lap = 3 minutes 7 seconds
   (a) Which lap did Eric complete faster ?
   (b) What was the time difference between these two laps ?

6. State the times shown on each of the following stopwatches.
   (The time shown here is 2 minutes 17·6 seconds)
   (a)  
   (b)  
   (c)  
   (d)  

7. Sandra won the race in a time of 2 minutes 15·3 seconds.
   Angela was only \( \frac{7}{10} \) of a second behind her.
   What was Angela’s time ?
Revision Exercise

1. Change the following 12 hour clock times to 24 hour clock times :-
   (a) 6:30 am  (b) 7:40 pm  (c) 11:32 pm.

2. Change the following 24 hour clock times to 12 hour clock times :-
   (a) 1650  (b) 0825  (c) 2215.

3. How long is it from :-  (show how you used “counting on” to obtain your answer)
   (a) 3:45 pm to 9:05 pm  (b) 1350 to 1725 ?

4. A concert started at 1935 and lasted for 3 hours 40 minutes.
   When did it finish ?

5. Change the following times into minutes and seconds :-
   (a) 100 seconds  (b) 125 seconds  (c) 205 seconds.

6. Change the following times into hours and minutes :-
   (a) 75 minutes  (b) 170 minutes  (c) 305 minutes.

7. ADD the following times :-
   2 minutes 40 seconds,  3 minutes 30 seconds  and  5 minutes 50 seconds.

8. SUBTRACT the following times :-
   5 minutes 10 seconds – 2 minutes 45 seconds

9. What time is shown on this stopwatch ?

10. Here are the times for 6 runners in a 400 metre race :-
    Lapsley  - 44·3 secs  Rodger  - 45·4 secs  Bryceland  - 43·8 secs
    Baker  - 45·5 secs  Gemmill  - 44·09 secs  Millar  - 45·2 secs
    List the 6 runners in order, winner first.