# Time

## Exercise 1 – 12 and 24 Hour Time



24-hour time
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
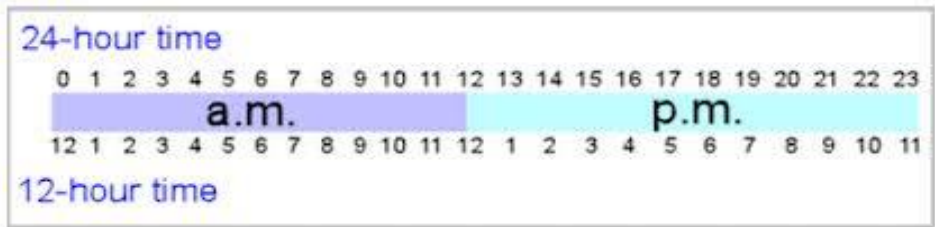a.m.          p.m.
12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11
12-hour time

Use this timeline to help you answer the following questions

**1** Change each time to 24 hour clock time

**a** 5:00a.m  **b** 5:00p.m  **c** 2:00p.m

**d** 7:30a.m  **e** 9:40p.m  **f** 11:25a.m

**g** 2:20p.m  **h** 12:15p.m  **i** 10:10p.m

**j** 3:00p.m  **k** 7:30p.m  **l** 11:25p.m

**2** Change each time to 12 hour clock time

**a** 05:00  **b** 16:00  **c** 02:00

**d** 07:30  **e** 13:24  **f** 17:05

**g** 15:24  **h** 01:45  **i** 06:55

**j** 20:10  **k** 22:15  **l** 23:32

# Exercise 4 – Time Intervals

1 Work out how many hours have passed from:

    **a** 9:00a.m to 10:00a.m         **b** 7:00a.m to 11:00a.m

    **c** 11:30a.m to 1:30p.m         **d** 12:10p.m to 4:10p.m

    **e** 3:15p.m to 8:15p.m          **f** 4:05p.m to 2:05a.m

2 Work out how many minutes have passed from:

    **a** 9:00a.m to 9:25a.m          **b** 7:40a.m to 7:55a.m

    **c** 11:30a.m to 11:45a.m       **d** 12:10p.m to 12:55p.m

    **e** 3:15p.m to 3:50p.m          **f** 4:05p.m to 4:22p.m

    **g** 1:10a.m to 1:38a.m          **h** 14:55 to 15:10

    **i** 20:50 to 21:10            **j** 03:42 to 04:15

    **k** 22:05 to 23:00           **l** 23:21 to 00:06

3 Work out how many hours and minutes have passed from:

    **a** 9:00a.m to 10:30a.m         **b** 8:30a.m to 11:00a.m

    **c** 10:30a.m to 11:45a.m       **d** 12:00p.m to 3:30p.m

    **e** 3:15p.m to 6:45p.m          **f** 4:15p.m to 8:45p.m

    **g** 1:10a.m to 6:30a.m          **h** 14:55 to 17:10

    **i** 20:50 to 22:15            **j** 03:42 to 07:15

    **k** 21:05 to 23:07           **l** 20:20 to 00:06

**4** The following programmes were shown on a TV channel one evening.

6.00 pm    News Report

6.30 pm    Local News

6.45 pm    Scenes from Soaps

7.15 pm    European Football Live

10.00 pm   Film – *The Curse of Pi*

11.30 pm   Evening News

11.45 pm   Wee Brother

**a**  How long does 'Scenes from Soaps' last?

**b**  Brian plans to watch 'Scenes from Soaps', European Football, and also the film. How long does he plan to spend watching television?

**c**  Due to extra time in the football, all programmes are delayed by 30 minutes. When will 'Wee Brother' start now?

## Exercise 5 – Timetables

**1**  Here is part of a bus timetable.

| Stonehouse | 0900 |
|---|---|
| Larkhall | 0915 |
| Hamilton | 0940 |

**a**  What time does the bus leave Stonehouse?

**b**  What time does the bus arrive at Larkhall?

**c**  How long is the journey from Stonehouse to Larkhall?

**d**  What time does the bus arrive in Hamilton?

**e**  How long was the journey from Larkhall to Hamilton?

**2** Here is part of a train timetable.

**a** What time does the train leave Larkhall?

**b** What time does the train arrive at Rutherglen?

**c** How long is the journey from Larkhall to Rutherglen?

**d** What time does the Train arrive in Glasgow?

| Larkhall | 1010 |
|---|---|
| Hamilton | 1017 |
| Rutherglen | 1031 |
| Glasgow Central | 1050 |
| SECC | 1105 |

**e** How long was the journey from Larkhall to SECC?

**3** Here is part of a train timetable.

**a** What time does the train 1 leave Hamilton?

**b** What time does the train 2 arrive at Partick?

**c** How long is the journey from Motherwell to Hamilton?

|  | Train 1 | Train 2 |
|---|---|---|
| Motherwell | 0832 | 1002 |
| Hamilton | 0842 | 1012 |
| Blantyre | 0847 | ??? |
| Glasgow | 0905 | 1035 |
| Partick | 0912 | ??? |

**d** How long is the journey from Hamilton to Blantyre?

**e** What time does the train2 arrive in Blantyre?

**f** How long is the journey from Glasgow to Partick?

**e** What time does the train2 arrive in Partick?

**4** Here is part of a train timetable.

| Monday to Friday | | | | | |
|---|---|---|---|---|---|
| | | **A** | **B** | **C** | **D** |
| **Glasgow** | (d) | 07:15 | 09:40 | 12:30 | 15:25 |
| **Lanark** | (d) | 07:45 | --:-- | 13:00 | --:-- |
| **Newcastle** | (d) | 09:30 | 10:50 | 15:15 | 16:35 |
| **Birmingham** | (d) | 11:40 | 13:00 | 17:25 | 18:45 |
| **London** | (a) | 13:15 | 14:35 | 18:00 | 20:20 |

**a**   When does train C leave Glasgow ?

**b**   Anne wants to travel from Glasgow to Newcastle.

   She wants to leave Glasgow in the afternoon.

   Which two trains could Anne travel on?

**c**   When does the 09 40 train get to London?

**d**   Frank lives in Lanark.

   He wants to get a train from Lanark to Birmingham.

   Which trains could he get?

**e**   Simon arrives at Birmingham station at 17 05.

   When is the next train to London?

**5** Here are timetables giving information on travelling from London to Jersey and back, by train and by ferry.

| London-Jersey | | |
|---|---|---|
| 20 30 | dep | London (Waterloo) |
| 21 16 | dep | Basingstoke |
| 21 42 | dep | Southampton |
| 22 25 | dep | Bournemouth |
| 23 30 | arr | Weymouth Quay |
| 00 15 | dep | Weymouth Quay |
| 05 45 | arr | Jersey |

| Jersey-London | | |
|---|---|---|
| Jersey | dep | 23 40 |
| Weymouth Quay | arr | 05 10 |
| Weymouth Quay | dep | 05 55 |
| Bournemouth | arr | 07 00 |
| Southampton | arr | 07 43 |
| Basingstoke | arr | 0819 |
| London (Waterloo) | arr | 09 05 |

Use the timetables to answer the following questions:

    **a** When does the train leave London?

    **b** **i)** When does the train arrive in Weymouth?
       **ii)** When does the ferry leave Weymouth?

    **c** When does the ferry arrive in Jersey?

    **d** When does the ferry leave Jersey to travel to Weymouth?

    **e** How long does it take for the train to travel from Bournemouth to London?

**6** Here is a bus timetable for journeys between Aberdeen and Glasgow.
The timetable uses the 24 hour clock.

|          | A     | B     | C     | D     |
|----------|-------|-------|-------|-------|
| **Aberdeen** | 09 00 | 11 18 | 14 41 | 18 05 |
| **Dundee**   | 10 20 | 12 38 | 16 03 | 19 25 |
| **Perth**    | 10 42 | 13 00 | 16 25 | 19 47 |
| **Stirling** | 11 17 | 13 32 | 16 58 | 20 19 |
| **Glasgow**  | 11 48 | 14 03 | 17 35 | 20 50 |

**a** Which buses leave Aberdeen in the morning?

**b** Which buses arrive in Glasgow after 2 pm?

**c** Which bus leaves Perth at 1.00 pm?

**d** Which bus arrives in Glasgow at twenty five to six?

**e** You get to the bus station in Perth at 10.30 am.
When is the next bus to Glasgow?

**f** **i)** How long does the 9 o'clock bus take to travel from Aberdeen to
Glasgow?
**ii)** How long does the last bus take to travel from Aberdeen to Glasgow?
**iii)** Which of these two buses takes longer to complete the journey?
**iv)** How much longer does it take?

**7 a** Jack is going to the theatre this Friday. The show is on Shaftesbury Avenue. He lives in Romford, and will get the train to Liverpool Street. It will take him 30 minutes to get to Shaftesbury Avenue from Liverpool Street station.

The show begins at 7.30pm.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Romford................... | 1754 | 1758 | 1814 | 1818 | 1824 | 1828 | 1828 | 1834 | 1838 |
| Chadwell Heath ........... | | 1802 | | 1822 | | 1832 | | | 1842 |
| Goodmayes................ | | 1804 | | 1824 | | 1834 | | | 1844 |
| Seven Kings .............. | | 1806 | | 1826 | | 1836 | | | 1846 |
| Ilford...................... | 1802 | 1809 | 1822 | 1829 | 1832 | 1839 | | 1842 | 1849 |
| Manor Park................ | 1805 | | 1825 | | 1835 | | | 1845 | 1852 |
| Forest Gate ............... | 1807 | | 1827 | | 1837 | | | 1847 | 1854 |
| Maryland.................. | 1809 | | 1829 | | 1839 | | | 1849 | 1856 |
| Stratford DLR ⊖ ........... | 1812 | 1815 | 1832 | 1835 | 1842 | 1845 | 1836 | 1852 | 1859 |
| **London Liverpool St.** ⊖ | 1820 | 1823 | 1840 | 1843 | 1850 | 1853 | 1845 | 1900 | 1907 |

It takes him 15 minutes to get to Romford station.

In your jotter, plan a schedule by copying and completing the table below.

| | Time |
|---|---|
| **Leave home.** | |
| **Train departs Romford.** | |
| **Train arrives Liverpool St.** | |
| **Arrive at Shaftesbury Ave.** | |

**7 b** He decides to meet a friend for dinner before the show, at a restaurant near the theatre.

They will need at least an hour for dinner.

| Station | | | | | | | |
|---|---|---|---|---|---|---|---|
| Romford..................... | 1708 | 1718 | 1728 | 1734 | 1738 | 1744 | 1748 |
| Chadwell Heath ............ | 1712 | 1722 | 1732 | | 1742 | | 1752 |
| Goodmayes................. | 1714 | 1724 | 1734 | | 1744 | | 1754 |
| Seven Kings ............... | 1716 | 1726 | 1736 | | 1746 | | 1756 |
| Ilford......................... | 1719 | 1729 | 1739 | 1742 | 1749 | 1752 | 1759 |
| Manor Park.................. | 1722 | 1732 | | 1745 | | 1755 | |
| Forest Gate ................. | 1724 | 1734 | | 1747 | | 1757 | |
| Maryland..................... | 1726 | 1736 | | 1749 | | 1759 | |
| Stratford **DLR** ⊖ ........... | 1729 | 1739 | 1745 | 1752 | 1755 | 1802 | 1805 |
| **London Liverpool St.** ⊖. | 1737 | 1747 | 1753 | 1800 | 1803 | 1810 | 1813 |

Remember, it takes him 30 mins to get to Shaftesbury Ave from Liverpool St, 15 minutes to get to Romford station, and the show starts at 7.30pm.

In your jotter, plan a new schedule by copying and completing the table below.

| | Time |
|---|---|
| **Leave home.** | |
| **Train departs Romford.** | |
| **Train arrives Liverpool St.** | |
| **Arrive at Shaftesbury Ave.** | |
| **Meet friend.** | |
| **Leave for theatre.** | |

**7 c** It's 10pm, the show is finished and he has to get home. He doesn't want to walk back to Liverpool St, and decides to get a cab. The taxi will take about 10 mins to get there from Shaftesbury Ave.  What time might he be expected home?

| London Liverpool St. ⊖. | 2205 | 2213 | 2220 | 2235 | 2250 | 2305 |
|---|---|---|---|---|---|---|
| Stratford DLR ⊖ ........... | 2212 | 2220 | 2227 | 2242 | 2257 | 2312 |
| Maryland..................... | 2214 | | 2229 | 2244 | 2259 | 2314 |
| Forest Gate ................. | 2216 | | 2231 | 2246 | 2301 | 2316 |
| Manor Park.................. | 2218 | | 2233 | 2248 | 2303 | 2318 |
| Ilford .......................... | 2221 | | 2236 | 2251 | 2306 | 2321 |
| Seven Kings ................ | 2223 | | 2238 | 2253 | 2308 | 2323 |
| Goodmayes.................. | 2225 | | 2240 | 2255 | 2310 | 2325 |
| Chadwell Heath ............ | 2227 | | 2242 | 2257 | 2312 | 2327 |
| Romford..................... | 2231 | 2228 | 2246 | 2301 | 2316 | 2331 |

Remember, it takes him 15 minutes to get home from Romford station.

In your jotter, plan a schedule for me by copying and completing the table below.

| | Time |
|---|---|
| **Leave the theatre.** | |
| **Arrive at Liverpool St.** | |
| **Train departs Liverpool St.** | |
| **Train arrives Romford.** | |
| **Arrive home.** | |

## Exercise 6 – Time Problems

**1**    Milly had an appointment at Dr. Smith's office yesterday at 11:30 a.m. The doctor called her into his office right on time. She was out of there 25 minutes later. What time did Milly leave the doctor's office?

**2**    Hassan stopped at Ella's Soup and Salad for lunch. He stayed there until he had to leave to meet his friend, William, at the library. They were meeting at 1:30 p.m. The library is a 20-minute walk from Ella's. What time did Hassan have to leave the restaurant in order to get to the library right on time?

**3**    Bethany and Joe are going to march in the big city parade on Saturday. They have to be at the parade an hour before it starts. The parade kicks off at 11 a.m. If it takes 25 minutes to walk to the starting point of the parade, what time will Bethany and Joe have to leave home in order to be there right on time?

**4**    Rory, the owner of Rory's Cookie Jar, has to bake 12 large pans of chocolate chip cookies before he leaves for the day. He can bake two pans of cookies at a time. Rory knows that for perfect cookies each pan must bake for 15 minutes -- no more, no less. If he starts baking at 5:45 p.m., what is the earliest he can close up shop?

**5**    James has a busy day planned today. He will meet his friend, Ben, at the skate park. That is a 15-minute walk from home. They will stay at the skate park for an hour. Then they will take a 10-minute walk over to the shops. The first thing they will do there is to grab a hot dog from Brittany's Burger Bar. If James left home at 10:00 a.m., what time did he and Ben get in line for a hot dog?

**6**   Class 4 were doing a writing assessment and the children were allowed 45 minutes to write a short story.  If the test started at 11.10 a.m., what time did it finish?

**7**   It takes 15 minutes to walk to St Lawrence Church. Father Michael has asked us to be there at 10.20 a.m.  At what time must we leave school?

**8**   On Wednesday, Mark arrived for P.E. at 2.12 p.m.  He wants everyone to be changed in 10 minutes. At what time should the children be ready to go outside?

**9**   It takes Mrs Jones 18 minutes to drive to school. If she leaves home at 7.40 a.m. at what time will she arrive?

**10**   Last Wednesday, the road was flooded and Mrs Jonest wasdelayed by 10 minutes.  If she left home at 7.45 a.m. when did she reach school.

**11**   Sandra runs the after school club from 3.15p.m. until 6.p.m. how long is the club open each day?

**12**   It takes 10 minutes to drive to Southam.  Mrs Privett left school at 1.15p.m. and drove to Southam. She spent 35 minutes shopping and then drove straight back. At what time did she get back to school?