

Problems involving 12- and 24-hour clocks

Convert between units of time to solve problems



1 Write the digital time to match these 12-hour times.

- a 15 min past 8
- b 20 min past 7
- c 25 min to 9
- d 5 min to 10
- e 10 min past 1
- f 10 min to 4

Example
25 min to 10 is 9:35

2 Write the 12-hour times that these 24-hour digital clocks show. Remember to write p.m. after each 12-hour time.

- a
- b
- c
- d
- e
- f

Example
19:00 is 7:00 p.m.

1 The table shows the time each child took to swim 4 lengths of a swimming pool.

Alex	264 s
Paul	$4\frac{1}{2}$ min
Leah	3 min 50s
Yasmin	4 min 8s

- a Write the times for Paul, Leah and Yasmin in seconds.
- b How many seconds faster was Leah than:
 - i Alex?
 - ii Paul?
 - iii Yasmin?

c Alex swam the first 2 lengths of the pool in 2 minutes and 16 seconds. How long, in minutes and seconds, did he take to swim the last 2 lengths of the pool?



2 The airport displays flight information on an Arrivals board. Write the scheduled arrival time for each flight as a 12-hour time. Remember to write a.m. or p.m. after the 12-hour time.

Arrivals board		
Scheduled arrival time	Arriving from	Remarks
09:50	Aberdeen	Landed 09:45
10:14	Oslo	Landed 10:40
11:32	Paris	Landed 11:32
12:45	Dubai	Expected 13:20
13:16	New York	Expected 12:56
13:38	Rome	Expected 14:15

Example
Aberdeen: 9:50 a.m.

3 Using the Arrivals board, answer these questions.

- a Which flight arrived on time?
- b Which flight landed 5 minutes early?
- c By how many minutes was the flight from Oslo late?
- d How many minutes ahead of the scheduled time is the flight from New York expected to land?
- e By how many minutes is the flight from Dubai expected to be late in landing?
- f What is the expected delay in minutes for the flight from Rome?



Challenge 3

1 Copy and complete the daily lunch break rota for four aircraft controllers: A, B, C and D. The order in which the controllers take the lunch breaks must differ each day, and each controller must have an equal chance of being first or last. Continue through the week until the rota repeats itself.

Day	Rota for lunch breaks			
	1st lunch	2nd lunch	3rd lunch	4th lunch
Monday	A			

2 The first lunch break starts at 11:45. If each lunch break is 35 minutes long, work out the start time of the other lunch breaks, giving your answer in 24-hour clock time.

