

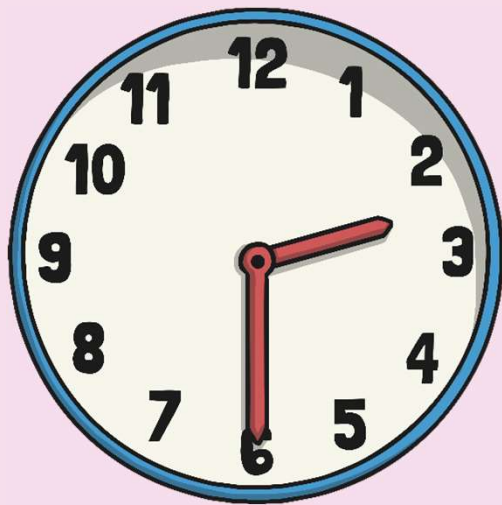
24 Hour Time

twinkl

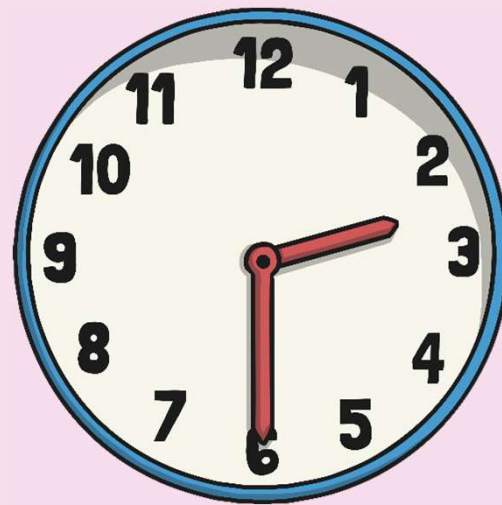
SHEPHERD PATENTEE
53 LEADENHALL ST LONDON

The 24 Hour Day

A day has 24 hours. A clock has 12 hours.
This means each time will happen twice every day.



half past 2 in the morning

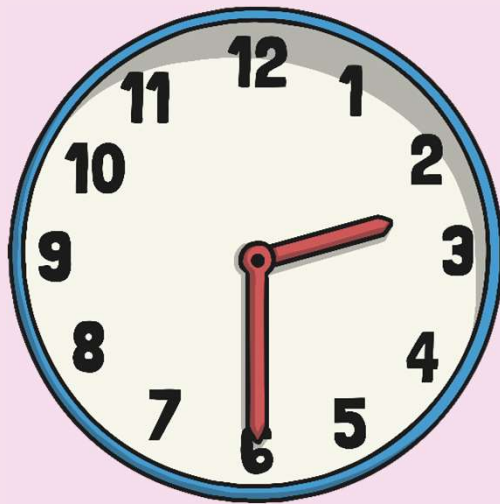


half past 2 in the afternoon

a.m. and p.m.

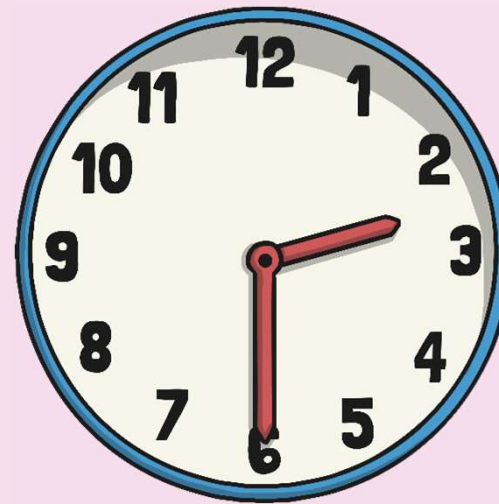
We have to use a way to write these times differently. One way is to use a.m. and p.m.

a.m. (ante meridiem – before noon)



2:30 a.m.

p.m. (post meridiem – after noon)

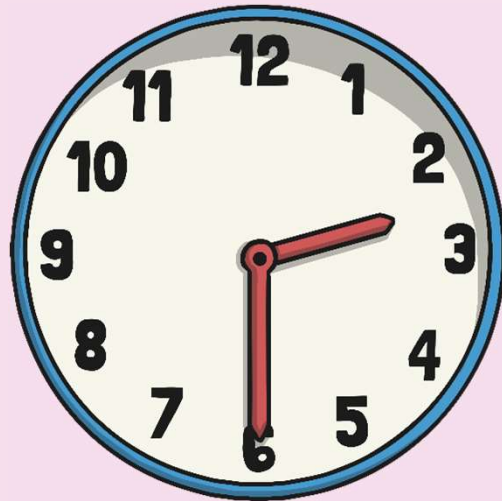


2:30 p.m.

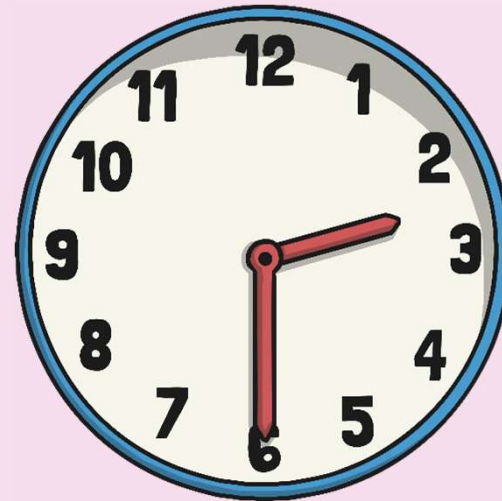
The 24 Hour Clock

Another way is to use a 24 hour clock.

This means the hours after 12 noon are converted to 13:00 to 23:00.



2:30



14:30

A 4 digit format is used. 2 digits for the hour, a colon (:) and 2 for the minutes.

24 Hour Hours

This clock and table show the corresponding hours on a 24 hour clock.

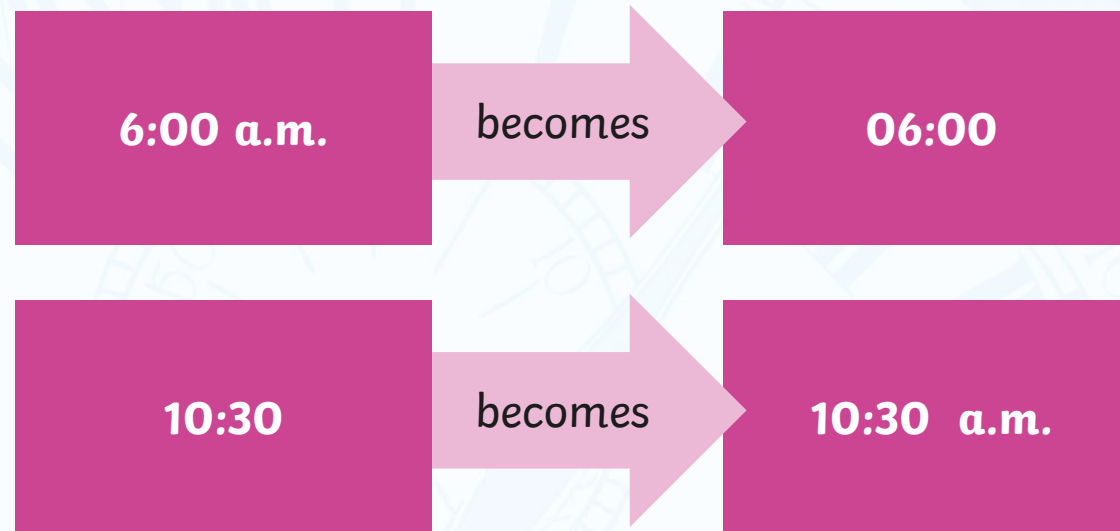


0:00 = 12:00 AM	12:00 = 12:00 PM
01:00 = 1:00 AM	13:00 = 1:00 PM
02:00 = 2:00 AM	14:00 = 2:00 PM
03:00 = 3:00 AM	15:00 = 3:00 PM
04:00 = 4:00 AM	16:00 = 4:00 PM
05:00 = 5:00 AM	17:00 = 5:00 PM
06:00 = 6:00 AM	18:00 = 6:00 PM
07:00 = 7:00 AM	19:00 = 7:00 PM
08:00 = 8:00 AM	20:00 = 8:00 PM
09:00 = 9:00 AM	21:00 = 9:00 PM
10:00 = 10:00 AM	22:00 = 10:00 PM
11:00 = 11:00 AM	23:00 = 11:00 PM

Midnight is referred to as 00:00

24 Hour Time in the Morning

To convert between 12 and 24 hour time in the morning change the format.



The hours stay the same.

24 Hour Time in the Afternoon

To convert between 12 and 24 hour time in the afternoon add or subtract 12 hours and change the format.



6:00 p.m. becomes 18:00



22:30 becomes 10:30 p.m.

Convert 12 to 24 hour

Convert these times to 24 hour time

12 hour time	24 hour time
2:45 a.m.	02:45
10:20 a.m.	10:20
1:55 p.m.	13:55
3:05 p.m.	15:05
5:35 p.m.	17:35
8:40 p.m.	20:40
11:25 p.m.	23:25

Convert 24 to 12 hour

Convert these times to 12 hour time

24 hour time	12 hour time
03:15	3:15 a.m.
11:15	11:15 a.m.
14:45	2:45 p.m.
16:20	4:20 p.m.
18:55	6:55 p.m.
21:05	9:05 p.m.
22:35	10:35 p.m.

12 and 24 hour clock times

	midnight	a.m.	noon	p.m.
12 hour	12:00 a.m.	e.g. 5:15 a.m.	12:00 p.m.	e.g. 4:15 p.m.
24 hour	00:00	e.g. 05:15	12:00	e.g. 16:15

Time Conversions

1 Minute = 60 Seconds

1 Hour = 60 Minutes

1 Day = 24 Hours

1 Year = 365 Days

Extension: How many Seconds in a day?

Examples

Convert 3 hours 30 minutes to a time in *minutes*

Convert 150 minutes to a time in *hours and minutes*:

Your turn

1. Convert to a time in *minutes* :

- (a) 2 hours 20 minutes
- (b) 3 hours
- (c) 4 hours 15 minutes
- (d) 8 hours 45 minutes
- (e) 10 hours 45 minutes

2. Convert to a time in *hours and minutes*:

- (a) 90 minutes
- (b) 100 minutes
- (c) 200 minutes
- (d) 108 minutes
- (e) 322 minutes

Answers

1. Convert to a time in *minutes*:

- | | |
|-------------------------|--------------------|
| (a) 2 hours 20 minutes | 140 minutes |
| (b) 3 hours | 180 minutes |
| (c) 4 hours 15 minutes | 255 minutes |
| (d) 8 hours 45 minutes | 525 minutes |
| (e) 10 hours 45 minutes | 645 minutes |

2. Convert to a time in *hours and minutes*:

- | | |
|-----------------|--------------------------|
| (a) 90 minutes | 1 hour 30 minutes |
| (b) 100 minutes | 1 hour 40 minutes |
| (c) 200 minutes | 3 hour 20 minutes |
| (d) 108 minutes | 1 hour 48 minutes |
| (e) 322 minutes | 5 hour 22 minutes |

Examples

Convert 3 minutes 5 seconds to a time in *seconds*

Convert 160 seconds to a time in *minutes* and *seconds*:

Your turn

3. Convert to a time in *seconds*:

- (a) 2 minutes 20 seconds
- (b) 10 minutes
- (c) 5 minutes 30 seconds
- (d) 4 minutes 20 seconds
- (e) 15 minutes 15 seconds

4. Convert to a time in *minutes and seconds*:

- (a) 90 seconds
- (b) 240 seconds
- (c) 310 seconds
- (d) 500 seconds
- (e) 185 seconds

Answers

3. Convert to a time in *seconds*:

- | | |
|---------------------------|--------------------|
| (a) 2 minutes 20 seconds | 140 seconds |
| (b) 10 minutes | 600 seconds |
| (c) 5 minutes 30 seconds | 330 seconds |
| (d) 4 minutes 20 seconds | 260 seconds |
| (e) 15 minutes 15 seconds | 915 seconds |

4. Convert to a time in *minutes and seconds*:

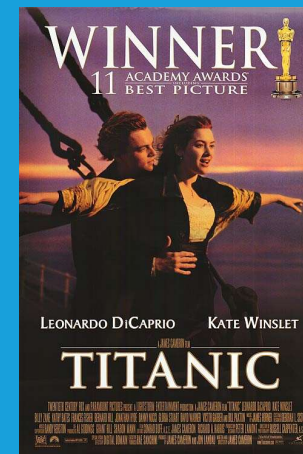
- | | |
|-----------------|-------------------------|
| (a) 90 seconds | 1 min 30 seconds |
| (b) 240 seconds | 4 min |
| (c) 310 seconds | 5 min 10 seconds |
| (d) 500 seconds | 8 min 20 seconds |
| (e) 185 seconds | 3 min 5 seconds |

Real world Problems

5. The film *Forrest Gump* lasts 142 minutes. How long is this in hours and minutes?



6. The film *Titanic* lasts 210 minutes. How long is this in hours and minutes?



7. The film *Shutter Island* lasts 138 minutes. How long is this in hours and minutes?



Extension: How long would it take in total to watch all 3 films?

Answers

5. The film *Forrest Gump* lasts 142 minutes. How long is this in hours and minutes?

2 hours 22 minutes

6. The film *Titanic* lasts 210 minutes. How long is this in hours and minutes?

3 hours 30 minutes

7. The film *Shutter Island* lasts 138 minutes. How long is this in hours and minutes?

2 hours 18 minutes

Extension: How long would it take in total to watch all 3 films?

8 hours 10 minutes

