

Read this information first, then find your group's questions:

Set A: Trapezium, Set B: Oblong and set C: Rhombus

These questions are for Thursday and Friday as they might take you a bit longer to answer!

Solving Problems with Time — 1

To solve some problems, you'll need to convert units of time.
For the questions on these pages, you'll need to convert hours to minutes and minutes to seconds.

Examples

Elliot cooks his porridge for 5 minutes.

How many seconds is this?

There are 60 seconds in a minute, so work out 5×60 :

$$5 \times 6 = 30, \text{ so } 5 \times 60 = \mathbf{300 \text{ seconds}}$$

Beth is going on holiday.

She travels for 30 minutes in a taxi to the train station.

She then travels for 2 hours on the train to the airport.

Her flight is 3 hours and 40 minutes long.

How many minutes does she spend travelling in total?



Convert the times that are in hours to minutes, then add them together.

There are 60 minutes in an hour, so you need to multiply by 60.

Time in taxi = 30 minutes

Time on train = $2 \times 60 = 120$ minutes

Time on flight = $(3 \times 60) + 40 = 180 + 40 = 220$ minutes

$$\begin{array}{r} 220 \\ 120 \\ + 30 \\ \hline 370 \end{array}$$

← You don't have to do it this way around — you could add the times together first, then convert the total to minutes.

So she spends **370 minutes** travelling in total.

Set A

Raleigh spends 6 hours at an amusement park.

1 How many minutes does he spend there?

A ride at the amusement park lasts for 3 minutes.

2 How many seconds does the ride last?

A swimming class starts at 6:00 pm.

It ends at 7:30 pm.

3 How long is the class, in hours and minutes?

4 How long is the class in minutes?

Jenny writes down the time she starts breakfast, lunch and dinner each day.

Breakfast	9:30 am
Lunch	12:15 pm
Dinner	5:50 pm

How many minutes are there between Jenny starting:

5 breakfast and lunch?

6 lunch and dinner?

7 Alice is making pancakes. She cooks each pancake for 2 minutes on one side. She then flips the pancake and cooks it for another 45 seconds.

How many seconds does it take her to cook each pancake?

Tim watches two films with the following lengths:

Film	Length of film
1	1 hour and 50 minutes
2	3 hours

8 How many minutes longer than the first film is the second film?

9 How many minutes in total does he spend watching the films?

10 A machine in a factory makes one envelope each second. The machine is switched on at 13:15 and switched off at 13:21. How many envelopes does the machine make?

Set B

- 1 One day, Anna works a nine-hour shift. She has a 45-minute break in the middle of the shift.

How many minutes does she spend working during her shift?

Finlay's last two school lessons today are shown in the table below:

English	14:10
Drama	15:15

The drama lesson finishes at 4:30 pm.

- 2 How many minutes is his English lesson?
3 How many seconds longer is his Drama lesson than his English lesson?

- 4 Mo arrives at the beach at 6:35 pm. The watch on the right shows the time he leaves the beach that evening.

How many minutes was Mo at the beach for?



Daryl listens to three songs with the following lengths:

Song	Length of song
1	4 minutes and 30 seconds
2	3 minutes
3	2 minutes and 45 seconds

- 5 How many seconds longer is song 1 than song 3?
6 How many seconds does he spend listening to all three songs?

During one week, Nabila goes swimming three times. The time she spends swimming on each day is shown in the table below.

Day	Time swimming
Wednesday	1 hour and 10 minutes
Saturday	25 minutes
Sunday	2 hours and 15 minutes

- 7 How many minutes does she spend swimming at the weekend?
8 On Wednesday, she swims two lengths of the pool for each minute she is swimming. How many lengths does she swim that day?

Set C

It is morning in London and evening in Tokyo.



- 1 How many hours' difference are there between London and Tokyo?
2 How many minutes is this?

- 3 Omar works as a cleaner. One day, he cleans a flat, a house and a bungalow. The time he spends cleaning each one is shown below.

Property	Time spent cleaning
Flat	45 minutes
House	3 hours and 5 minutes
Bungalow	1 hour and 35 minutes

How many minutes did it take him to clean all three properties?

- 4 Will and Amir are baking. Will spends 1 hour and 35 minutes making a cake. Amir spends 50 minutes making cookies, and 1 hour and 40 minutes making cupcakes.

How much longer is Amir baking than Will? Give your answer in minutes.

- 5 Two soldiers guard an army base. The soldiers swap places every 5 minutes. After how many seconds will they have swapped places twice?

During a TV advert break, four adverts are played.

- The first advert is 1 minute and 4 seconds long.
- The second advert is 1 minute and 13 seconds long.
- The third advert is half as long as the first advert.
- The fourth advert is 20 seconds shorter than the second advert.

- 6 How many seconds longer is the second advert than the third advert?
7 How long is the advert break in total? Give your answer in seconds.