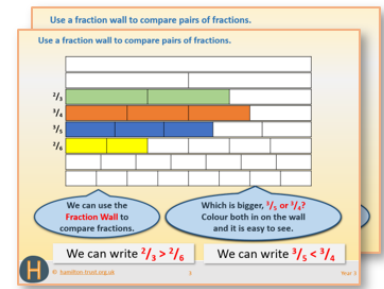


Week 10, Day 5

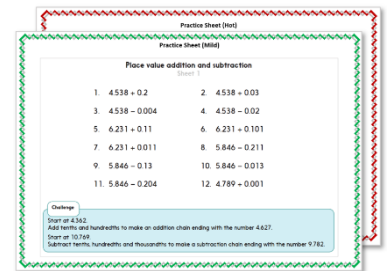
Calculate time intervals using the 24-hour clock

Each day covers one maths topic. It should take you about 1 hour or just a little more.

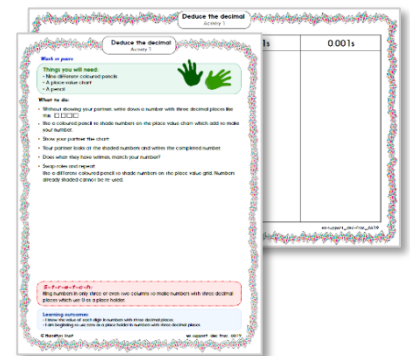
1. Start by reading through the **Learning Reminders**. They come from our *PowerPoint* slides.



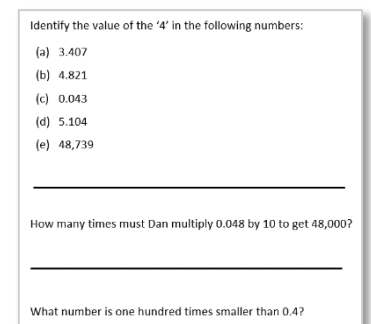
2. Tackle the questions on the **Practice Sheet**. There might be a choice of either **Mild** (easier) or **Hot** (harder)! Check the answers.



3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**



4. Have I mastered the topic? A few questions to **Check your understanding**. Fold the page to hide the answers!



Learning Reminders

Calculate time intervals using the 24-hour clock.

A film starts at 6:45pm and ends at 8:10pm. How long is the film?

We can do a jotting on a line to solve this. Start with the earliest time and use hours as stopping points to count up.



$$1 \text{ hour} + 15 \text{ mins} + 10 \text{ mins} = 1 \text{ hour } 25 \text{ mins}$$

Learning Reminders

Calculate time intervals using the 24-hour clock.

Starting before 7pm and finishing after 8pm we can find other pairs of times with a difference of 1 hour 25 minutes.

See how there is an hour between 7pm and 8pm and that the 25 minutes is split on either side of these two times.



$$1 \text{ hour} + 5 \text{ mins} + 20 \text{ mins} = 1 \text{ hour } 25 \text{ mins}$$

Practice Sheet Mild

Calculating time intervals

Here is a TV guide. It tells you what time television programmes start and finish. Look at the guide then answer the questions.

Channel ONE		App review 16:15-17:05	Speed is king 17:05-18:00	News 18:00-18:45	Soap Street 18:45-19:30	Bake the bread 19:30-20:25
Channel TWO	Terry the Teddy 16:00-16:20	Kids Quiz 16:20-16:55	Story sack 16:55-17:05	FILM: Monty goes to the Moon 17:05-18:30	Football update 18:30-19:30	Totally Trucks 19:30-20:20
Channel THREE		Railway wonders 16:10-17:05	Coastal walks 17:05-17:35	Amazing Antiques 17:35-18:10	Friday FILM: Alaskan Adventure 18:10-20:00	

1. How long is the programme Soap Street?
2. How long is the programme App review?
3. Which programme lasts half an hour?
4. Which programme lasts 1 hour and 25 minutes?
5. How long is the longest programme?
6. How long is the shortest programme?

Challenge

Make up three more questions about the length of programmes in this guide.
Ask your partner to solve them.

Practice Sheet Hot

Calculating time intervals

Here is a TV guide. It tells you what time television programmes start and finish. Look at the guide then answer the questions.

Channel ONE		App review 16:15-17:05	Speed is king 17:05-18:00	News 18:00-18:45	Soap Street 18:45-19:30	Bake the bread 19:30-20:25
Channel TWO	Terry the Teddy 16:00-16:20	Kids Quiz 16:20-16:55	Story sack 16:55-17:05	FILM: Monty goes to the Moon 17:05-18:30	Football update 18:30-19:30	Totally Trucks 19:30-20:20
Channel THREE		Railway wonders 16:10-17:05	Coastal walks 17:05-17:35	Amazing Antiques 17:35-18:10	Friday FILM: Alaskan Adventure 18:10-20:00	

- How long is the programme Soap Street?
- How long is the programme App review?
- Which programme lasts half an hour?
- Which programme lasts 1 hour and 25 minutes?
- How long is the longest programme?
- How long is the shortest programme?
- How many programmes last longer than an hour?
- How many programmes last less than half an hour?
- A young child is watching Channel 2 at 4pm. What programme is on then?
- Later, her brother watches Totally Trucks. He goes to bed at 8pm. How much of the programme will he miss?

Challenge

Make up three more questions about the length of programmes in this guide. Ask your partner to solve them.

Practice Sheets Answers

Calculating time intervals (mild)

1. Soap Street is 45 minutes long.
2. App review is 50 minutes long.
3. Coastal Walks lasts half an hour.
4. Monty goes to the Moon.
5. 1 hour and 50 minutes long (Alaskan Adventure).
6. 10 minutes long (Story Sack).

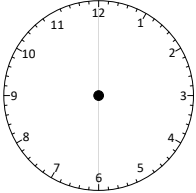
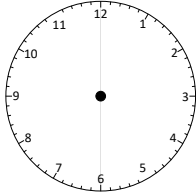
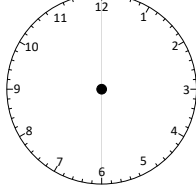
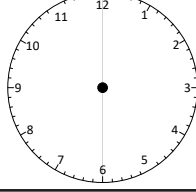
Calculating time intervals (hot)

1. Soap Street is 45 minutes long.
2. App review is 50 minutes long.
3. Coastal Walks lasts half an hour.
4. Monty goes to the Moon.
5. 1 hour and 50 minutes long (Alaskan Adventure).
6. 10 minutes long (Story Sack).
7. 3
8. 2
9. Terry the Teddy.
10. 20 minutes.

A Bit Stuck?

Converting times

Can you convert between analogue, 12-hour digital and 24-hour digital clocks?
Write in the missing times in each format.

<i>Analogue clock</i>	<i>Digital 12-hour format</i>	<i>Digital 24-hour format</i>
	10:15 am	
	8:45 am	08:45
		
	2:35 pm	
		13:20
	10:40 pm	

Challenge

Can you arrange the 8 times in order throughout the day?

A Bit Stuck? Answers

Converting times

<i>Analogue clock</i>	<i>Digital 12-hour format</i>	<i>Digital 24-hour format</i>
	10:15 am	10:15
	8:45 am	08:45
	9:05 am	09:05
	2:35 pm	14:35
	1:20 pm	13:20
	10:40 pm	22:40

Challenge

The order of times is: 8:45am, 9:05am, 10:15am, 1:20pm, 2:35pm, 10:40pm.

Check your understanding

Questions

Each of these train times is given using a 24-hour clock. Write the times in analogue format in words.

- 13:40 to London
 - 14:45 to Bristol
 - 15:13 to Newcastle
 - 16:05 to Birmingham
 - 17:35 to Chester
-

Calculate the time interval between each pair of times:

13:40	14:45
14:45	15:13
15:13	16:05
16:05	17:35

True or false

- Half an hour after quarter to midnight is 01:15
- 16:25 is half an hour before five to five
- 00:30 is half past midday.
- Twenty past three in the afternoon is 15 minutes before 15:35

Check your understanding

Answers

- 13:40 to London Twenty to two.
- 14:45 to Bristol Quarter to three.
- 15:13 to Newcastle Thirteen past three.
- 16:05 to Birmingham Five past four.
- 17:35 to Chester Twenty five to six.

All are PM times. Watch for children subtracting 10 rather than 12 from the hours when converting 24-hour clock times.

Calculate the time interval between each pair.

13:40	14:45	1 hour 5 minutes
14:45	15:13	28 minutes
15:13	16:05	52 minutes
16:05	17:35	1 hour 30 minutes

True or false?

- Half an hour after quarter to midnight is 01:15 False, it is 00:15.
- 16:25 is half an hour before five to five True.
- 00:30 is half past midday. False, it is half past midnight, half past midday is 12:30.
- Twenty past three in the afternoon is 15 minutes before 15:35 True.