

Mathletics

Series

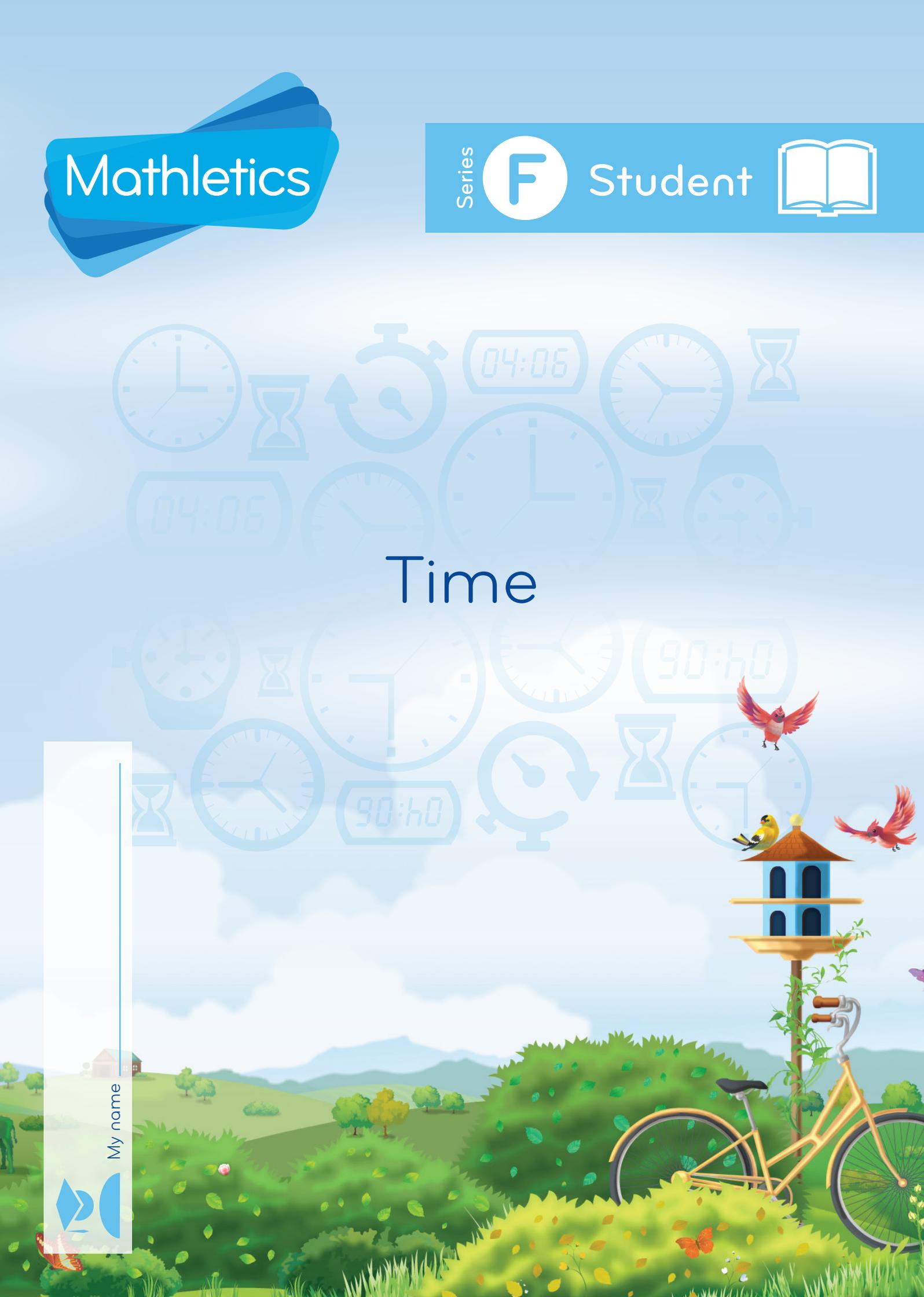


Student



Time

My name



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Series F – Time

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Series Authors:

Rachel Flenley
Nicola Herringer

Measuring time – time relationships

Connect these time facts:

1 minute	24-hours		1 year	10 years
1 hour	365 days		1 fortnight	100 years
1 day	60 seconds		1 decade	12 months
1 year	60 minutes		1 century	14 days

1 How many minutes are there in the following hours?

- | | |
|---|---|
| a 2 hours = <input type="text"/> minutes | b $\frac{1}{4}$ hour = <input type="text"/> minutes |
| c $\frac{1}{2}$ hour = <input type="text"/> minutes | d $\frac{3}{4}$ hour = <input type="text"/> minutes |
| e 4 hours = <input type="text"/> minutes | f 6 hours = <input type="text"/> minutes |

2 How many seconds are there in the following times?

- | | |
|---|---|
| a 2 minutes = <input type="text"/> seconds | b 5 minutes = <input type="text"/> seconds |
| c 1 hour = <input type="text"/> seconds | d $\frac{1}{2}$ hour = <input type="text"/> seconds |
| e $\frac{1}{2}$ minute = <input type="text"/> seconds | f $\frac{1}{4}$ hour = <input type="text"/> seconds |

I need to remember to change hours to minutes first. Then I can convert to seconds.



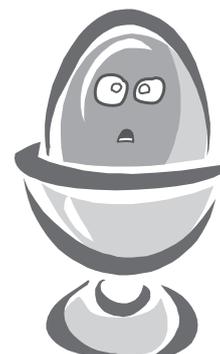
THINK

3 Use the information in the top box to work out these time facts:

- | | |
|--|--|
| a 1 decade = <input type="text"/> months | b 1 century = <input type="text"/> years |
| c 2 fortnights = <input type="text"/> days | d $\frac{1}{2}$ century = <input type="text"/> years |
| e 1 week = <input type="text"/> hours | f 2 years = <input type="text"/> days |

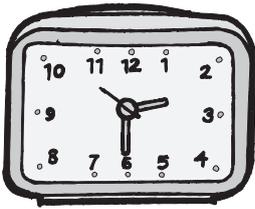
4 What time unit would you use to measure each of the following?

- Time to hard boil an egg _____
- One millennium _____
- One leap year _____
- Length of a football match _____



Measuring time – reading analogue clocks

1 Draw a line from each clock to its matching time in words:



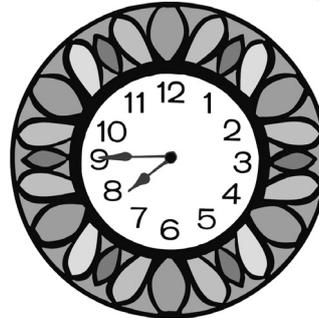
quarter to 8



half past 2

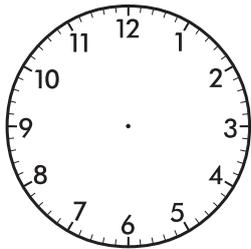


25 minutes to 5

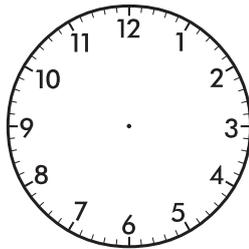


25 minutes past 3

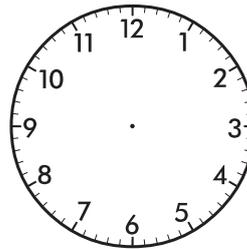
2 Draw the hands on these clocks:



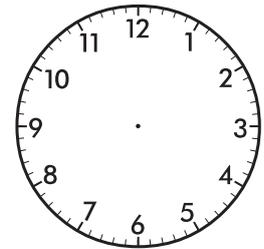
a 20 minutes past 6



b quarter to 7

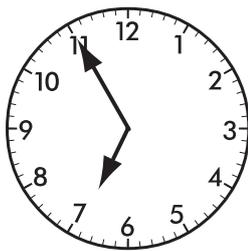


c 16 minutes past 4

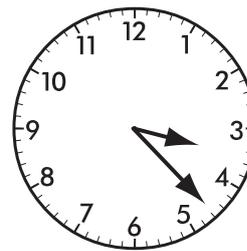


d 25 minutes to 9

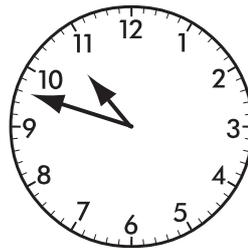
3 Using 'to' and 'past', write the time displayed on each clock:



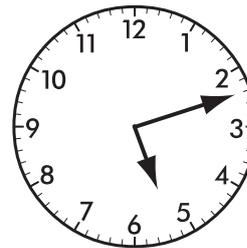
a _____



b _____



c _____



d _____

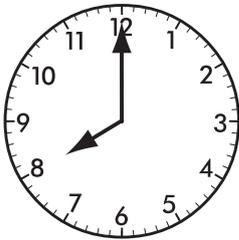
Measuring time – am and pm notation

We use am and pm with digital time.

am → The part of the day between 12 midnight and 12 noon.

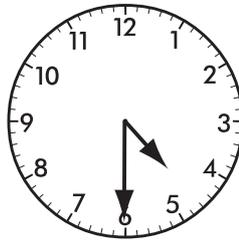
pm → The part of the day between 12 noon and 12 midnight.

1 Express these times in digital form using am or pm:



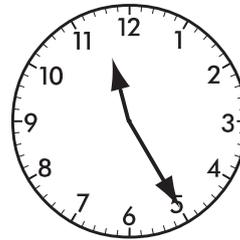
morning

a :



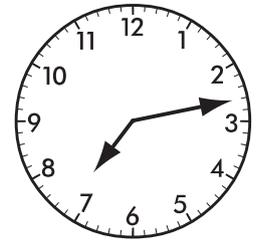
afternoon

b :



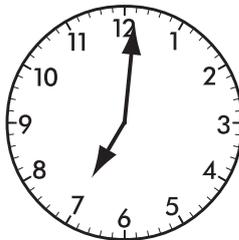
evening

c :



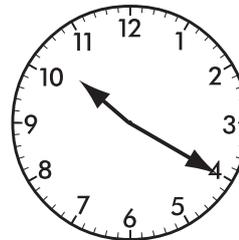
morning

d :



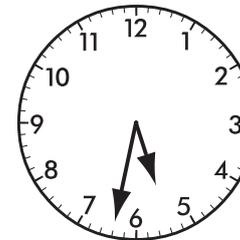
morning

e :



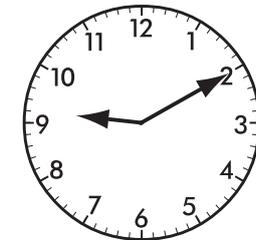
evening

f :



afternoon

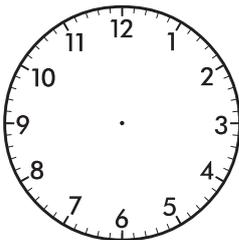
g :



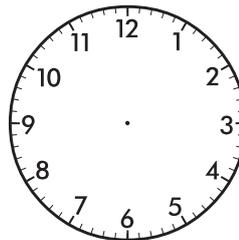
morning

h :

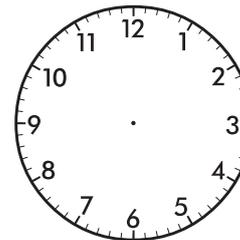
2 Draw hands on these analogue clocks to match the digital times:



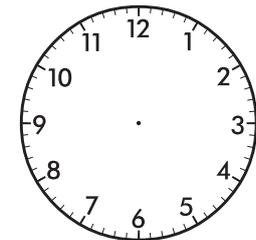
a 8:40 am



b 5:16 pm

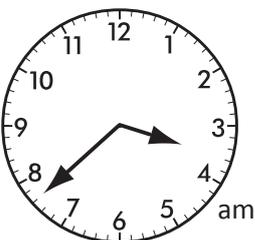


c 10:30 am



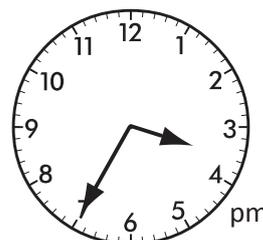
d 12:18 pm

3 Put these times in order from earliest to latest. Express the times in digital form:



quarter past 5
in the evening

11:10 am



1 :

2 :

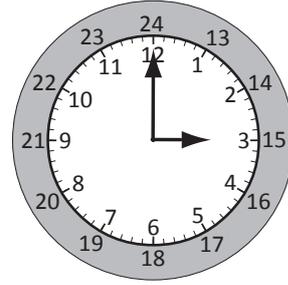
3 :

4 :

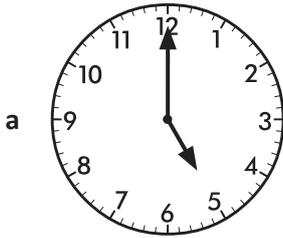
Measuring time – 24-hour time

Time can be measured using 12-hour time, using am or pm, or 24-hour time. This clock shows 24-hour time on the grey outside ring.

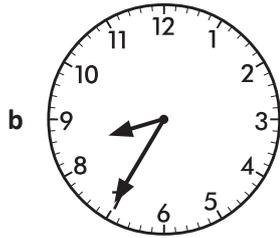
5:00 pm = 17:00



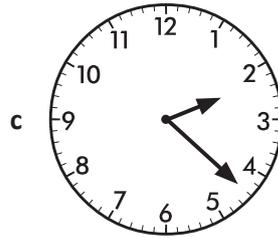
1 Write the digital time for each clock face.



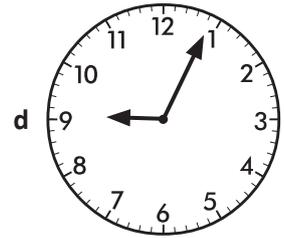
: am



: pm

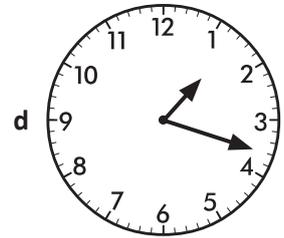
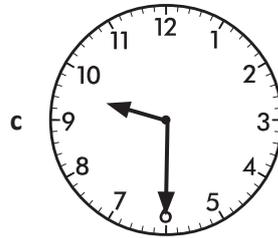
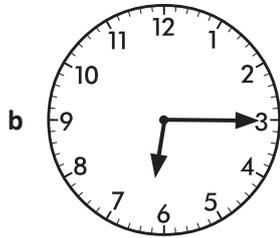
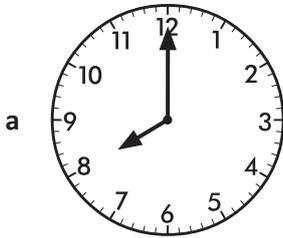


: am



: pm

2 Write the 24-hour time for each clock face.



3 Convert these digital times to 24-hour times.

a 5:15 pm =

b 8:39 am =

c 4:07 pm =

4 Convert these 24-hour times to digit times.

a 16:15 =

b 10:43 =

c 01:34 =

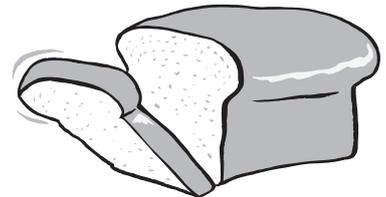
Measuring time – time relationship challenges

1 How long does it take to make a loaf of bread?

Read this recipe carefully and work out how long it will take to make the bread.

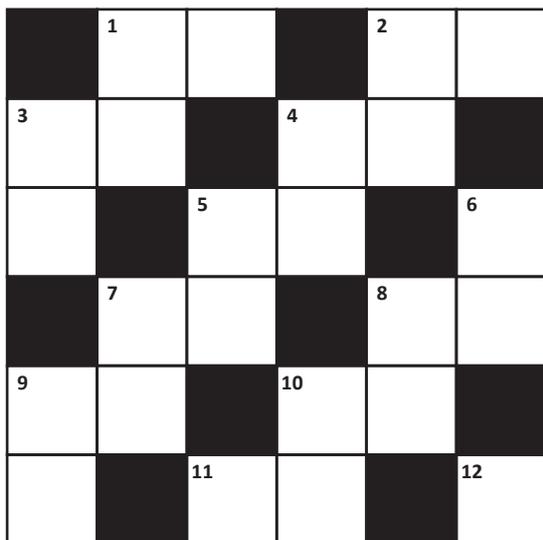
Method for making a loaf of bread:

1. Make the dough by adding yeast mixture to the flour. This will take 3 minutes.
2. Knead on a lightly floured surface for 10 minutes.
3. Place the dough in a covered bowl and let it rise in a warm place for about $1\frac{1}{4}$ hours.
4. Shape dough into 2 balls, cover and let it rest for 8 minutes.
5. Shape dough into 2 loaves and let rise until doubled in size (1 hour).
6. Preheat oven to 200°C for 15 minutes.
7. Bake in the preheated oven for 35 minutes or until the top is golden.



Total amount of time needed to make the bread:

2 Use what you know about time relationships to complete this cross number puzzle. You may use a calculator.

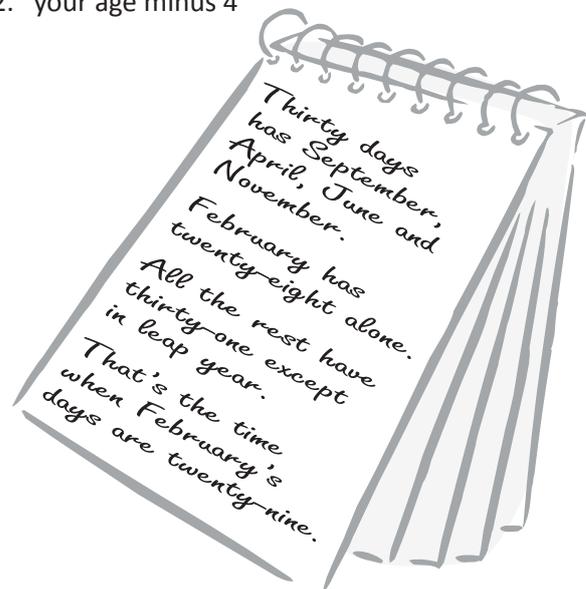


Across

1. years in half a century
2. minutes in $\frac{1}{4}$ of an hour
3. minutes in 1 hour + 20 minutes
4. hours in 1 day
5. days in April
7. hours in 2 days plus 1 hour
8. hours in half a day
9. minutes in $1\frac{1}{4}$ hours
10. minutes in $\frac{2}{3}$ of an hour
11. hours in 4 days and 2 hours
12. your age minus 4

Down

1. years in 5 decades
2. days in a fortnight
3. hours in $\frac{1}{2}$ a week
4. seconds in $\frac{1}{3}$ of a minute
5. days in September plus 9 days of October
6. hours in 3 days
7. minutes in $\frac{3}{4}$ hour
8. seconds in $\frac{1}{6}$ of a minute
9. months in 6 years
10. hours in 2 days





Getting ready

Last weekend, Akhil and three of his friends went on a camping trip. Each person brought different snacks. Each person had different travel times. Each person had a preferred nickname.



What to do

Read the clues in order to determine each person's nickname, the amount of time that it took each to arrive, and the snacks each person brought.

- The four nicknames are: Bug, Hank, Tops and Haz (the four friends' names are written in the table).
- The four snacks are: chocolate, lollies, soft drink and chips.
- The four travel times are: 15 minutes, 10 minutes, 20 minutes and 5 minutes.

Clues

1. Houman brought the lollies and had the longest drive. His drive was 20 minutes.
2. Akhil, whose nickname is Bug, did not bring soft drink or chocolate.
3. Sean arrived before the person who brought the lollies and after the one who brought the chocolate.
4. Dan only needed to drive for five minutes. His was the shortest drive.
5. The order of arrival is: the one who brought chocolate, the one whose nickname is Tops, Akhil, and the person whose nickname is Haz.

Name	Nickname	Time	Snack
Akhil			
Houman			
Sean			
Dan			

24-hour time dominoes

apply



Getting ready



This is a game for 2 players. You will need a copy of this page, a pencil and some paper.



What to do



Cut out the cards below and choose one player to be the caller. The other 2 players must write down six digital pm times but only o'clock and half past times. The caller must shuffle the cards well and read out the 24-hour times.

The first player to cross out all 6 times is the winner.

Swap roles and play again until everyone has had a turn at being the caller.



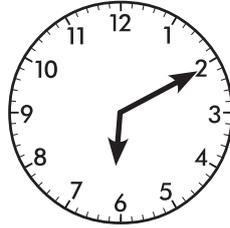
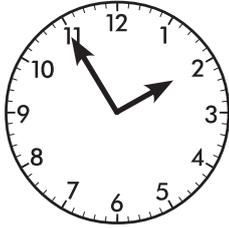
15:00	17:00	13:00	14:00
14:30	20:30	21:00	13:30
20:00	17:30	18:30	22:30
19:00	21:30	16:30	19:30
16:00	22:00	23:30	23:00

Calculating time – elapsed time

Elapsed time is the difference between 2 different times.

To work out the difference between 2 times, first you count the hours, then you count the minutes.

1:55 to 6:10



1:55 to 5:55 = 4 hours

5:55 to 6:10 = 15 minutes

The total elapsed time is 4 hours and 15 minutes.

1 How much time is there between:

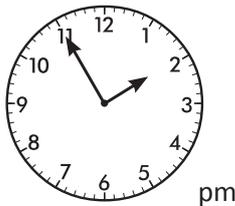
- a Three in the afternoon and eleven that evening? _____
- b 6 am and 1 pm? _____
- c One in the morning and ten in the same morning? _____
- d Seven in the morning until 12:30 pm? _____



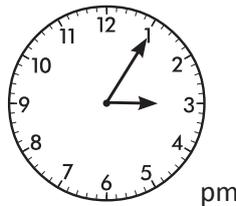
THINK

2 Work out the time elapsed.

a Linh arrived at a party at:



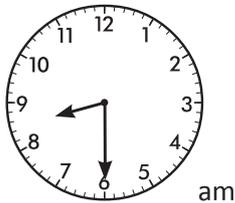
She left at:



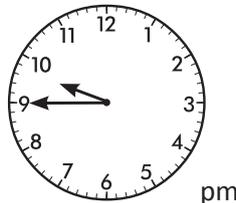
She was at the party for:

minutes

b The bus left at:



It arrived at:

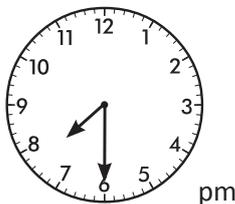


The bus trip took:

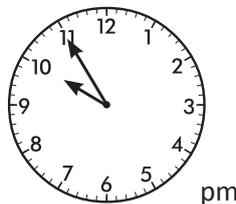
hours

minutes

c The movie started at:



It finished at:



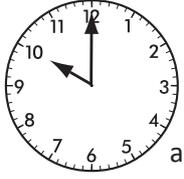
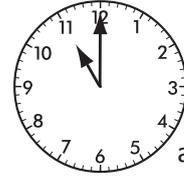
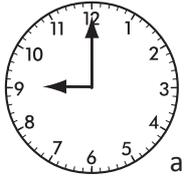
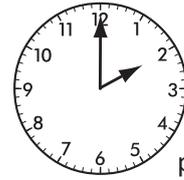
The movie went for:

hours

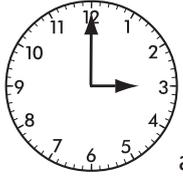
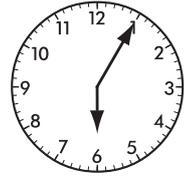
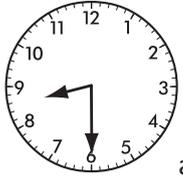
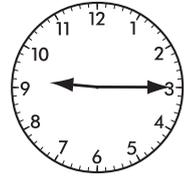
minutes

Calculating time – elapsed time

3 Work out the elapsed time.

<p>a Start Finish</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input style="width: 100%; height: 20px;" type="text" value="9:15 am"/> Elapsed time: <input style="width: 100%; height: 20px;" type="text"/> </div> <div style="width: 45%; text-align: center;">  <p>am</p> </div> </div>	<p>b Start Finish</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input style="width: 100%; height: 20px;" type="text" value="7:30 am"/> Elapsed time <input style="width: 100%; height: 20px;" type="text"/> </div> <div style="width: 45%; text-align: center;">  <p>am</p> </div> </div>
<p>c Start Finish</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input style="width: 100%; height: 20px;" type="text" value="4:00 pm"/> Elapsed time <input style="width: 100%; height: 20px;" type="text"/> </div> <div style="width: 45%; text-align: center;">  <p>am</p> </div> </div>	<p>d Start Finish</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input style="width: 100%; height: 20px;" type="text" value="2:00 am"/> Elapsed time <input style="width: 100%; height: 20px;" type="text"/> </div> <div style="width: 45%; text-align: center;">  <p>pm</p> </div> </div>

4 Work out the finish time.

<p>a Start Finish</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%; text-align: center;">  <p>am</p> </div> <div style="width: 45%;"> <input style="width: 100%; height: 20px;" type="text" value=":"/> Elapsed time: <input style="width: 100%; height: 20px;" type="text" value="3 hours 10 minutes"/> </div> </div>	<p>b Start Finish</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%; text-align: center;">  <p>am</p> </div> <div style="width: 45%;"> <input style="width: 100%; height: 20px;" type="text" value=":"/> Elapsed time: <input style="width: 100%; height: 20px;" type="text" value="2 hours 25 minutes"/> </div> </div>
<p>c Start Finish</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%; text-align: center;">  <p>am</p> </div> <div style="width: 45%;"> <input style="width: 100%; height: 20px;" type="text" value=":"/> Elapsed time: <input style="width: 100%; height: 20px;" type="text" value="6 hours 15 minutes"/> </div> </div>	<p>d Start Finish</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%; text-align: center;">  <p>pm</p> </div> <div style="width: 45%;"> <input style="width: 100%; height: 20px;" type="text" value=":"/> Elapsed time: <input style="width: 100%; height: 20px;" type="text" value="4 hours 30 minutes"/> </div> </div>

5 Being able to count forward in intervals is an important skill.

Finish each time trail:

a	Count on in 15 minutes	9:30	<input style="width: 40px; height: 20px;" type="text"/>	10:00	10:15	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
b	Count on in 10 minutes	7:42	7:52	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	8:22	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
c	Count on in 15 minutes	6:47	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	7:32	<input style="width: 40px; height: 20px;" type="text"/>	8:02	<input style="width: 40px; height: 20px;" type="text"/>
d	Count on in 10 minutes	2:53	<input style="width: 40px; height: 20px;" type="text"/>					

Calculating time – elapsed time

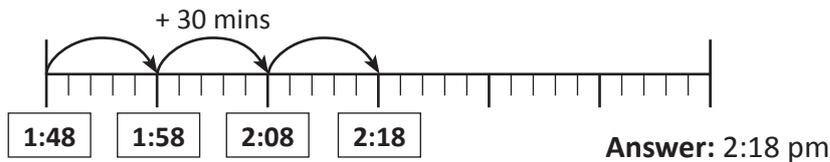
A time line can help us with more difficult elapsed time problems.

Question: A party started at 12:48 pm and went for 1 hour and 30 minutes. What time did it finish?

- Steps:**
1. First count on in hours in your head and write that answer in the first box on the time line.
 2. Use the time line to count on in minutes. Each small marker represents 2 minutes. Each large marker represents 10 minutes.

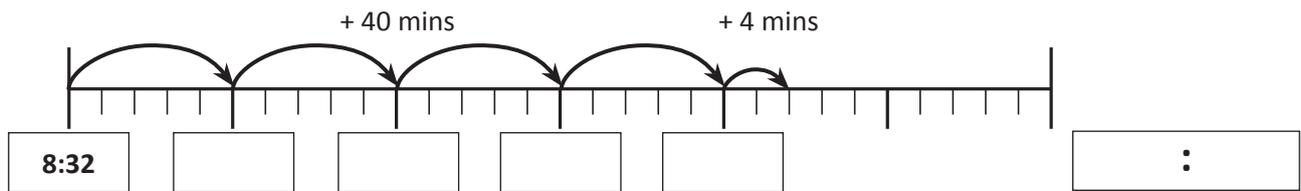


REMEMBER

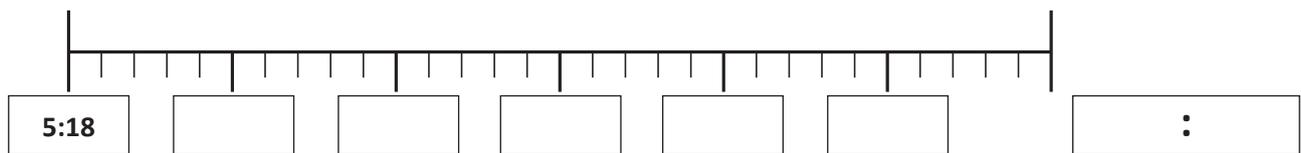


6 Use the time line for each elapsed time problem:

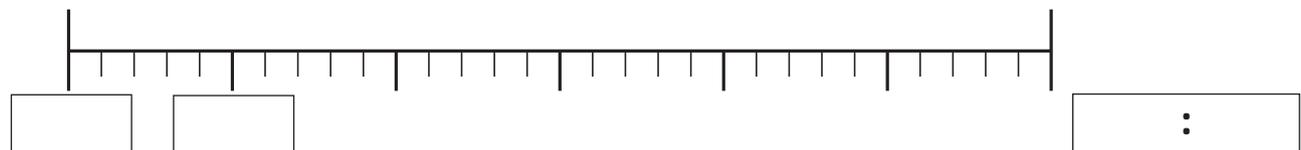
- a Abdul played the clarinet from 7:32 pm for 1 hour and 44 minutes. What time did he finish?



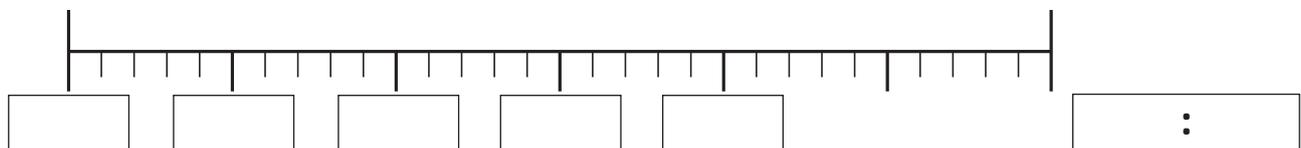
- b Ali took 3 hours and 52 minutes to wash 12 cars. If she started at 2:18 pm, what time did she finish?



- c Sarah drove to her friend Nick's house. She left her house at 4:36 pm and the drive took 2 hours and 18 minutes. What time did she arrive?



- d In order to buy and prepare all the food for the birthday party, Max worked solidly from 2:18 pm for 3 hours and 46 minutes. What time did he stop?



Calculating time – using a stopwatch

The time on this stopwatch is read as:
52 minutes, 38 seconds and 42 hundredths of a second



- 1 For these questions you will need a stopwatch. Estimate and measure how long it takes to do the following activities down to hundredths of a second. Write the time as accurately as possible.

Activity	Estimate	Time
Run 200 metres		
Recite the 6 times table		
Eat an apple		
Count to 150		
Write the alphabet 3 times		
Walk to the school office		
Write your name neatly 5 times		

- 2 What do these times mean on a stopwatch?

Stopwatch display	Minutes	Seconds	Hundredths of a second
3:51:22			
2:45:79			
1:58:87			
5:45:78			

- 3 Order these times from fastest to slowest:

1:38:42	1:36:65	1:56:89	1:56:99



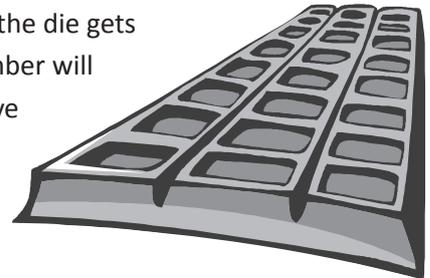
Getting ready

For this game you will need: a group of 6 players, a die, a stopwatch, a block of chocolate, a knife and fork, a pair of rubber gloves and a hat. You will also need a copy of this sheet per group.



What to do

The aim of this game is to find out which roll of the die gets to the chocolate the fastest. Your first lucky number will be 1, then 2, and so on until all the numbers have been played.



Players sit in a circle. Put the chocolate, gloves, knife and fork and a hat in the centre of the circle. One player stands outside the group timing how long it takes to roll each number on the die with a stopwatch. Start anywhere in the circle, pass the die around until a player rolls the lucky number on the die.

The player who rolls the lucky number puts on the hat and gloves and cuts off one piece of chocolate at a time to eat.

Meanwhile, the die is still passed around with players trying to roll the lucky number.

When the next person rolls the lucky number, the person who was in the centre cutting into the chocolate becomes the timer and the timer joins the circle.

After you have played with all 6 numbers (1–6), order the numbers in the table according to how quickly they came up.

This first row in this table shows how you need to record the times.

Number on die	Minutes	Seconds	Hundredths of a second	Ranking fastest to slowest
1	1	34	38	
2				
3				
4				
5				
6				



What to do next

Compare your table with other groups. Did anyone have a similar ranking of “lucky” numbers?



“It’s mayhem!” moaned Sergeant Nixon as he fought his way backstage through the angry crowds. 100,000 fans had travelled from far and wide to see their idol Max Madness in concert, and they were growing increasingly restless as time ticked on with no Max in sight.

Little did the fans know that Max Madness might not appear at all – his golden electric maximum voltage guitar had been stolen and Max was storming around his dressing room, cursing and muttering, and refusing to go on stage until it was safely back in his possession.

“I’ve had it with me all day,” he spat. “The only time it was out of my sight was when I was getting a massage between 5:00 and 6:00 pm!”

“We’ll get it back, Sir,” stated Sergeant Nixon firmly. “No one will get away with that on my watch. This show will go on.”

He rounded up 3 likely suspects, all avid fans, who had been found lurking around backstage. All 3 were obsessed with Max. All 3 had caught the train to the stadium. And of course, all 3 swore black and blue that they were innocent.

Tina Sparkles, Max’s self-appointed number 1 (and just a bit crazy) fan, protested, “Well it couldn’t have been me! I was getting a spray tan and my nails done at 3 pm. That took 2 hours. It takes time to look good, you know. And Max and I might marry tonight so I must look my best ...”

Rod Raver, a wanna be rock star, stated desperately, “I was with my mates rehearsing. We started at 3:55 and jammed for $2\frac{1}{2}$ hours. Once Max hears how good I am, he’ll want me in his band.”

Paparazzi Pete, who stalked Max regularly, claimed, “Nah, not me, mate. I was on Paris Hilton watch today. I spotted her at 4:15 and kept watch for an hour until it was time to come here.”



One of these suspects arrived at the stadium in time to nick the guitar. Use the train timetable to see whose alibi just doesn’t hold up.

Train Timetable	
Departs City	Arrives Rock and Roll Stadium
3:10 pm	3:40 pm
4:00 pm	4:30 pm
4:40 pm	5:10 pm
5:10 pm	5:40 pm
5:40 pm	6:10 pm
6:00 pm	6:30 pm

Answer: _____. Have you and Sergeant Nixon saved the day?

Timetables – measuring time

Timetables are often used to schedule public transport.

1 Use the timetable to answer the questions below:

Station	Time				
Burwood	5:20	5:27	5:50	7:17	8:26
Croydon	-	-	6:00	7:27	8:36
Ashfield	5:35	5:42	6:05	7:32	8:41
Summer Hill	-	6:12	7:39	8:48	8:53
Lewisham	5:48	5:55	6:18	7:45	8:54

- a What time does the 10 to 6 train from Burwood arrive at Ashfield? _____
- b I have just missed the 5:35 train from Ashfield. How long do I have to wait until the next train? _____
- c I live in Croydon and I want to get to Lewisham by 6:30. Which train should I get? _____

2 Answer the questions below about this TV guide:

Time	7:00–8:00 pm	8:00–9:00 pm		9:00–10:00 pm	10:00–11:00 pm
Channel 1	News	Current Affairs		Soccer Finals	Late News
Channel 2	Days of Us	Fashion Watch	TV Bloopers	Movie: Ghost Busters	Movie Reviews
Channel 3	News	History of Gold		The Car Show	Late Night Movie

- a What time does Current Affairs on Channel 1 start? _____
- b How long is the History of Gold on Channel 3? _____
- c How long do the Soccer Finals go for? _____
- d What time does TV Bloopers start? _____
- e Alicia watches too much TV. If she watched Fashion Watch, TV Bloopers and then the movie Ghost Busters, how long was she in front of the box for? _____

Timetables – reading timetables

Timetables are often used to schedule public transport and can be set up using either digital or 24-hour time.

Burwood to Wynyard								
Burwood	17:20	17:27	17:50	19:17	20:26	21:32	22:39	23:43
Croydon	---	---	18:00	19:27	20:36	---	22:49	---
Ashfield	17:35	17:42	18:05	19:32	20:41	21:46	22:54	23:58
Summer Hill	---	---	18:12	19:39	20:48	21:53	23:01	---
Lewisham	17:48	17:55	18:18	19:45	20:54	21:58	23:07	00:11
Petersham	17:53	18:00	18:23	19:48	20:57	21:01	23:10	00:09
Stanmore	---	---	18:29	19:54	21:03	20:07	23:16	---
Newtown	---	---	18:36	20:00	21:10	---	23:23	---
Redfern	18:11	18:18	18:41	20:05	21:14	20:17	23:27	00:24
Central	---	18:21	18:44	20:08	21:18	20:20	23:30	00:27
Town Hall	---	---	18:48	20:12	21:22	20:24	23:34	00:31
Wynyard	18:23	18:30	18:53	20:17	21:26	20:28	23:38	00:36

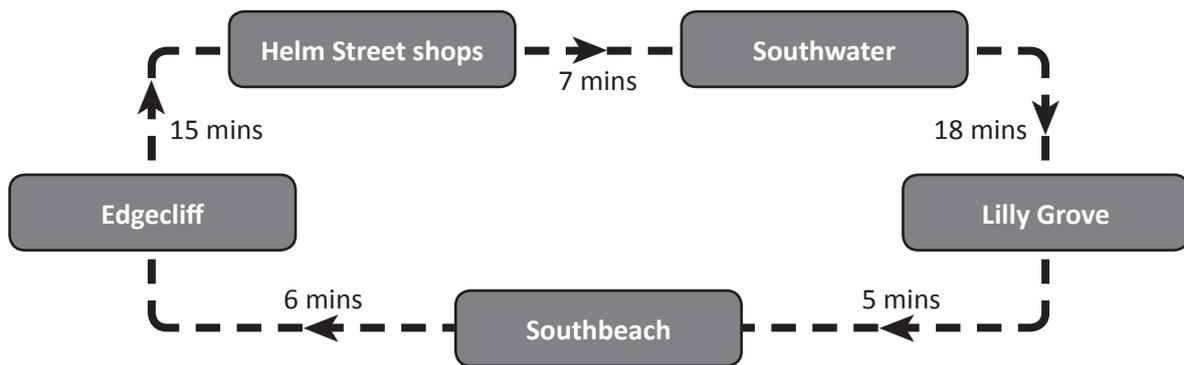
1 Use the timetable to answer the questions below:

- a What time does the 7:17 pm train from Burwood arrive at Petersham? _____
- b What time does the quarter to eight train from Lewisham arrive at Town Hall? _____
- c Can I catch the 5:35 pm from Ashfield if I want to get off at Stanmore? _____
- d Which stations does the last train from Burwood miss?

- e At what time does the 8:36 pm Croydon train leave Newtown? _____
- f Omar arrives at Redfern station at ten to six in the evening.
How long does he have to wait for the next train? _____ minutes

Timetables – reading timetables

2 This diagram shows the route of a shuttle bus and the length of time between stops.



- a If you leave Edgecliff at 7:55 am, what time can you expect to be at Lilly Grove? _____
- b What time did you get on the bus at Southbeach if it is 5:00 pm when you get off at Helm Street shops? _____

3 The timetable below is from a fitness club.

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
8:30 am	Boxing	Yoga	Cardio	Cardio	Squash	Pilates	Pilates
9:30 am	Pilates	Squash	Yoga	Weights	Cardio	Squash	Weights
10:30 am	Cardio	Pilates	Pilates	Squash	Pilates	Cardio	Squash
4:30 pm	Yoga	Boxing	Squash	Pilates	Boxing	Weights	Cardio
5:30 pm	Squash	Weights	Boxing	Boxing	Weights	Yoga	Yoga

Fill in the blank in each person's statement:

- a Paula says to her friend:
 "I can meet you on Monday but we have to finish by _____ as it takes me 30 minutes to drive to my yoga class."
- b Linh says to her friend:
 "I can meet you at _____ after my squash game on Sunday. My game takes 45 minutes and then the drive will take me 10 minutes maximum."
- c Michael says to his friend:
 "I'll meet you for dinner after my boxing training that goes for $1\frac{1}{2}$ hours on Thursday night. It will take me 10 minutes to shower and 20 minutes to drive there so I will meet you at _____."

Timetables – working out travel time

Quite often when we use public transport we need to be able to work out how we are going to use more than one mode of transport. We do this by working backwards. Look at this question based on the timetables below:

*We can see that Carlsford is the connecting point between the train and the bus.
To get to Fisherman’s Wharf by 1:30 pm, he needs to catch the 12:20 pm bus from Carlsford.
To catch the 12:20 pm bus at Carlsford, he needs to catch the 12:05 pm train from Trinian Street and change to the bus platform.*

Ben is at Trinian Street and wants to meet his friend at Fisherman’s Wharf at 1:30 pm.

Train	Bus
Catch the 12:05 pm from Trinian Street. Change at Carlsford and wait 2 minutes.	Catch the 12:20 pm from Carlsford. Arrive at Fisherman’s Wharf 1:12 pm.

Train				
Knightscope	10:16 am	11:16 am	12:16 pm	1:16 pm
Fig Tree Park	10:21 am	11:21 am	12:21 pm	1:21 pm
Trinian Street	11:05 am	12:05 pm	1:05 pm	2:05 pm
Carlsford	11:15 am	12:18 pm	1:16 pm	2:17 pm

Bus				
Carlsford	11:20 am	12:20 pm	1:20 pm	2:20 pm
Nottsville	11:50 am	12:50 pm	1:50 pm	2:50 pm
Fisherman’s Wharf	12:12 pm	1:12 pm	2:12 pm	3:12 pm
Slamton	12:32 pm	2:32 pm	3:32 pm	4:32 pm

1 Give each person the travel details they need to arrive at their destination on time. Remember to work backwards and to find the connecting point.

a Akhil is at Trinian Street and wants to go shopping at Nottsville. He would like to get there at 3 pm.

Train	Bus



b Masuka is at Knightscope and needs to get to Fisherman’s Wharf for his 12:30 pm shift at the fish and chips shop.

Train	Bus



c Mish is at Fig Tree Park and wants to meet her friend at Slamton at 3:40 pm.

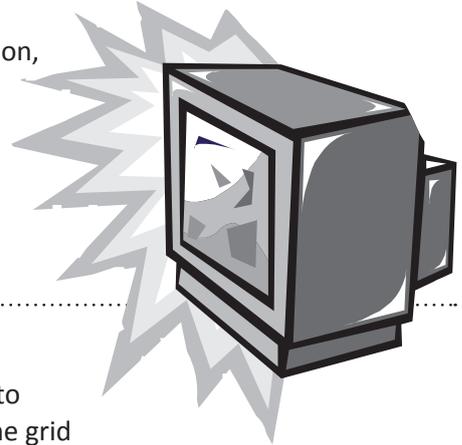
Train	Bus





Getting ready

Five friends like five different TV shows: a cartoon, a crime show, a reality show, football and a sitcom. They all screen on different channels (BBC 2, Channel 5, Sky 1, BBC 1 and Channel 4) and on different nights of the week. Your job is to match the friend with their favourite show.



What to do

Read the clues below and use the information to eliminate possibilities. Show your choices on the grid below. You may want to use the grid on the following page to help you arrange your thoughts.

1. Luke's favourite show airs on the weekend. He doesn't watch crime shows and thinks sitcoms are a waste of time.
2. The sitcom screens on Tuesday evening on Channel 4.
3. The cartoon is on BBC 1.
4. Hung's show is on the highest numbered BBC channel on the first day of the school week. He can't stand reality TV.
5. No one's favourite show is on Sunday or Friday.
6. Macey hates sports. Her favourite show is Hung's least favourite show and screens 2 days after Jamie's.
7. The crime show airs on BBC 2.
8. Britt's favourite show screens on Wednesdays on BBC 1.
9. Jamie's show screens on Channel 4, one day before Britt's favourite show.
10. The football screens on Saturday on Channel 5.

Name	Show	Night	Channel
Luke			
Macey			
Jamie			
Hung			
Britt			

Puzzle grid

	Luke	Macey	Jamie	Hung	Britt
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					
Saturday					
Sunday					
Sport					
Reality					
Crime					
Cartoon					
Sitcom					
BBC 2					
Channel 5					
Sky 1					
BBC 1					
Channel 4					



Getting ready

You have been given the task of writing the school holiday programme for the Circus School Royale.



What to do

Use trial and error to work out which activities fit within the 8 session times exactly to create a daily program. Start by looking at how much time there is between breaks, then decide on the best way to order the activities.

The time between breaks must equal the combined time of the activities you choose.

Allow 5 minutes after breaks for everyone to get to the next session.

Start times for the sessions after breaks are written in.

The order of activities may vary.



Activity	Duration
Clown school	1 hour
Acrobatics	1 $\frac{1}{2}$ hours
Flying trapeze	40 minutes
Balloon animals	45 minutes
Fire juggling	35 minutes
Unicycling	55 minutes
Magic tricks	50 minutes
Face painting	25 minutes

Session	Time	Activity
1	9:00	
2		
	11:30–12:10	Break
3	12:15	
4		
	1:30–2:30	Lunch
5	2:35	
6		
7		
	4:35–5:00	Break
8	5:05	
	6:00	Home

