

Year 6 Maths

Week 7- solving problems

Have a go at trying to complete this mystery.

Complete the clues by working out the maths problems.

As you go through, use the list of people and delete the names as you learn the clues.

Can you work out who is the culprit?

The town of Merryvale look forward to the arrival of the travelling fair every summer. The children save up their pocket money, the mums and dads nag them not to eat too much junk and to be sensible, and the teenagers can't wait to jump on the waltzers and feel sick on the rickety rollercoaster.

This year is no exception and everyone is excited about the fair opening on Friday night.

However, disaster has struck!

The large ice cream van has got everyone's favourite ice creams loaded up and ready to serve. The crowds start entering the playing field and the rides begin to turn.

The queue outside the ice cream van is growing, when Mr Freeze goes to the ice cream tubs only to find they are all completely melted! Someone has unplugged the massive freezers keeping the large number of tubs of ice cream frozen!

As Chief Inspector, you need to find and solve the clues, and end the mystery of the ice-less ice cream of the Merryvale Fair.



Name	M/F	Age	Food eaten	Type of hat	Shoe size
Alec Adams	M	12	burger	canvas	4
Bilhal Begum	M	14	chips	baseball cap	9
Charlie Carter	M	10	burger	canvas	6
Danielle Danesh	F	13	chips	sun visor	5
Euan Evans	M	13	hot dog	baseball cap	10
Fiona Freidman	F	12	hot dog	canvas	5
Gethin Griffin	M	10	taco	baseball cap	7
Hamish Hendry	M	15	hot dog	baseball cap	10
Igor Isles	M	12	burger	baseball cap	4
Jasvinder Jain	F	12	burger	sun visor	9
Kuba Kucharzewski	M	12	chips	baseball cap	8
Leonie Lane	F	15	taco	straw	6
Mollie Mehmet	F	14	taco	canvas	6
Nic Nowak	M	14	taco	baseball cap	9
Oliver Olland	M	13	chips	sun visor	8
Pam Patel	F	12	burger	baseball cap	4
Quinn McQueen	M	12	burger	baseball cap	10
Robbie Rayson	M	12	taco	straw	4
Safa Sharif	F	13	chips	baseball cap	5
Tomasz Taylor	M	13	burger	canvas	10
Uma Underwood	F	12	hot dog	sun visor	6
Veronica Valley	F	11	chips	baseball cap	5
Wi Wong	M	15	taco	baseball cap	10
Xi Xan	M	14	burger	canvas	10
Zoe Zub	F	12	hot dog	canvas	6

Clue 1: True or False?

Answer true or false to these statements. If there are more false statements than true, the culprit is male.

Statement	True	False
A cuboid has 6 vertices.		
$14 \times 20 = 280$		
14:35 is the same as twenty minutes to three.		
$\frac{4}{10}$ of 150 is 60.		
A square-based pyramid has four flat surfaces.		
$\frac{3}{4}$ of 300 is 215.		
There are 315 minutes in $5\frac{1}{4}$ hours.		
There are 75 twenty pence coins in £15.		
$1289 - 369 = 910$		
Three years is equal to 146 weeks.		
$\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$		
$81 \div 9 = 8$		
4.6 is rounded to 4.		
Five lots of fifteen equals seventy-five.		
Six triangles and three squares have thirty sides altogether.		

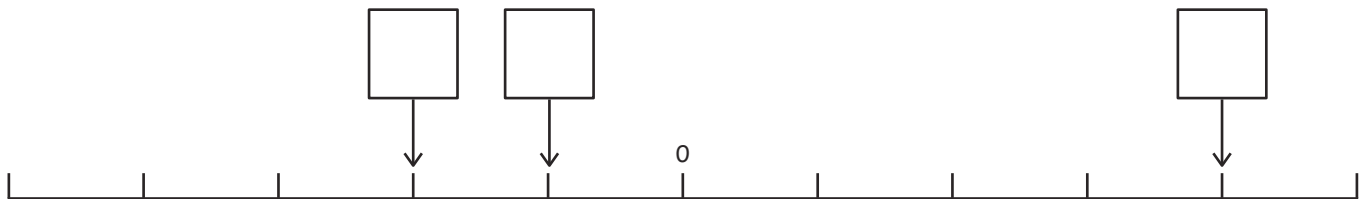
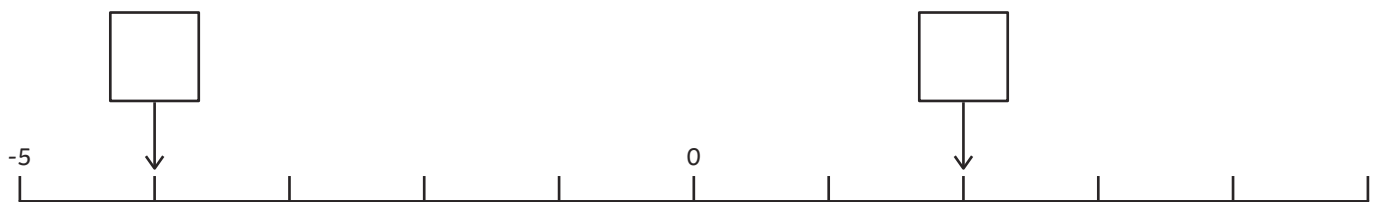
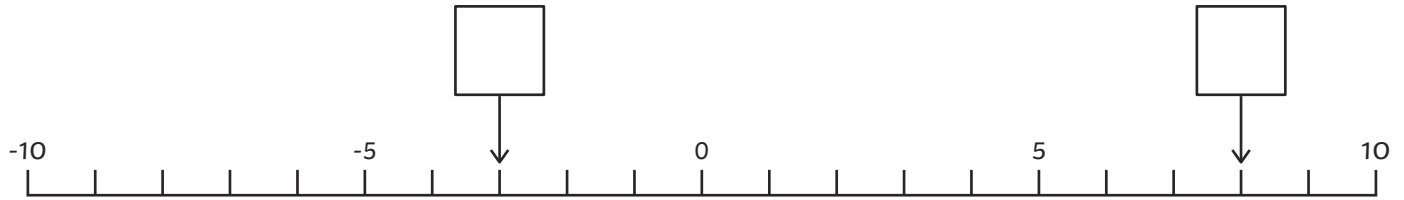
Answer to clue 1:

Circle the correct gender.

The culprit is M / F

Clue 2: Number Lines

Put the missing numbers on the number lines, then order the words in the table and solve the next clue.

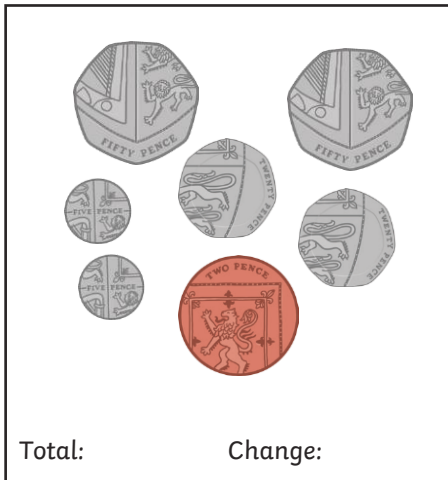


-1 wearing	5 thirteen	-4 cap	1 eleven
9 fourteen	-3 the	-5 hotdog	-2 baseball
2 a	7 footprint	8 was	4 culprit

Answer to clue 2:

Clue 3: Change

Work out the change given from £10. Find the answers in the table and rearrange the words to solve the third clue.



£4.54 were	£3.24 hotdog	£7.62 in	£2.10 chips
£7.50 dropped	£8.48 found	£5 taco	£8.63 van
£5.05 crumbs	£7.12 shoe	£3.44 burger	£2.54 wrapper

Answer to clue 3:

Clue 4: Common Answers

Whichever answer is repeated the most, is the age of the ice cream wrecker.

$$260 \div 20 = \boxed{}$$

$$4121 - 4109 = \boxed{}$$

$$2190 \div \boxed{} = 219$$

$$\frac{1}{10} \text{ of } 150 = \boxed{}$$

$$\frac{1}{3} \text{ of } 36 = \boxed{}$$

$$108 \div 9 = \boxed{}$$

$$\text{Number of hours in a day, subtract } 10 = \boxed{}$$

$$\begin{array}{r} 121 \\ - 107 \\ \hline \end{array}$$

$$\begin{array}{r} 1201 \\ - 1186 \\ \hline \end{array}$$

$$1 + 3 + 5 - 7 + 8 + 3 = \boxed{}$$

$$\begin{array}{r} \boxed{} \\ \boxed{} \\ \hline \hline \end{array}$$

$$\begin{array}{r} \boxed{} \\ \boxed{} \\ \hline \hline \end{array}$$

Answer to clue 4:

The ice cream wrecker is _____ years old.

Clue 5: Equivalent Fractions

Fill in the missing equivalent fractions.

1. $\frac{1}{2} = \frac{\boxed{}}{10} = \frac{\boxed{}}{14} = \frac{3}{6}$

2. $\frac{1}{3} = \frac{\boxed{}}{9} = \frac{\boxed{}}{18} = \frac{5}{15}$

3. $\frac{1}{4} = \frac{\boxed{}}{8} = \frac{4}{\boxed{}}$

4 five	2 footprint	9 found
3 discovered	8 ice-cream	5 freezer
10 lost	7 by	1 there
6 size	12 culprit	16 ten

Answer to clue 5:

Have you worked out who melted all the ice creams at the Merryvale Fair?

The person who melted all the ice cream was_____.

Clue 1 Answers

Answer true or false to these statements. If there are more false statements than true, the culprit is male.

Statement	True	False
A cuboid has 6 vertices.		✓
$14 \times 20 = 280$	✓	
14:35 is the same as twenty minutes to three.		✓
$\frac{4}{10}$ of 150 is 60.	✓	
A square-based pyramid has four flat surfaces.		✓
$\frac{3}{4}$ of 300 is 215.		✓
There are 315 minutes in $5\frac{1}{4}$ hours.	✓	
There are 75 twenty pence coins in £15.	✓	
$1289 - 369 = 910$		✓
Three years is equal to 146 weeks.		✓
$\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$	✓	
$81 \div 9 = 8$		✓
4.6 is rounded to 4.		✓
Five lots of fifteen equals seventy-five.	✓	
Six triangles and three squares have thirty sides altogether.	✓	

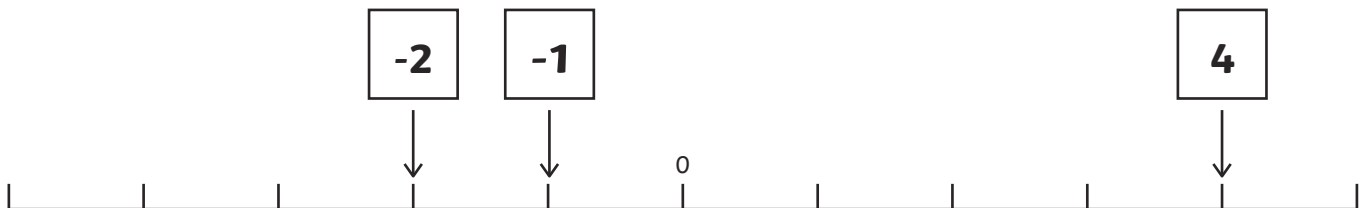
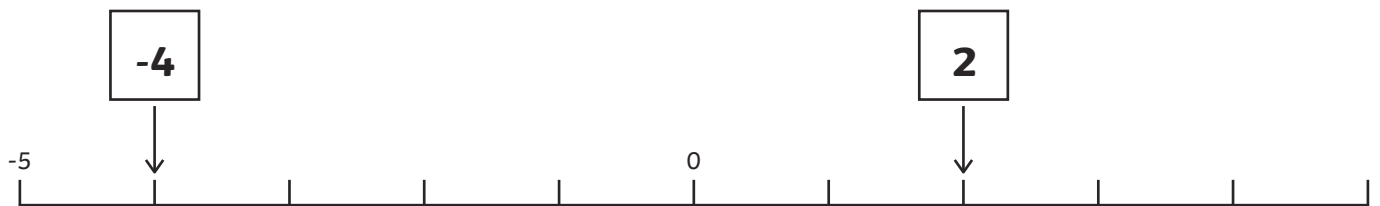
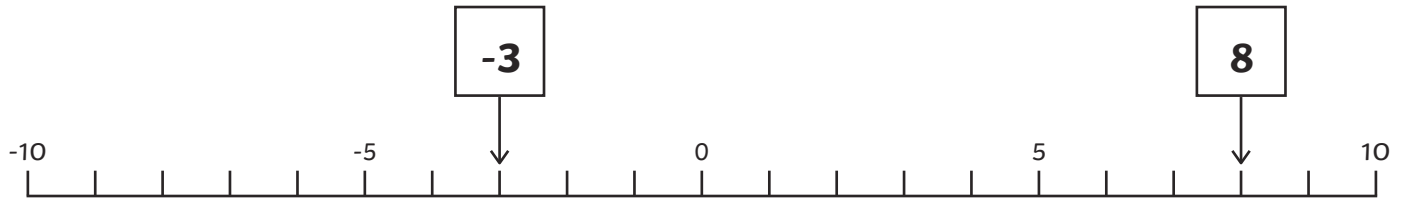
Answer to clue 1:

Circle the correct gender.

The culprit is **(M)** / F

Clue 2 Answers

Put the missing numbers on the number lines, then order the words in the table and solve the next clue.



-1 wearing	5 thirteen	-4 cap	1 eleven
9 fourteen	-3 the	-5 hotdog	-2 baseball
2 a	7 footprint	8 was	4 culprit

Answer to clue 2:


The culprit was wearing a baseball cap.

Clue 3 Answers


Work out the change given from £10. Find the answers in the table and rearrange the words to solve the third clue.



Total: £1.52
Change: £8.48



Total: £2.38
Change: £7.62



Total: £6.56
Change: £3.44



Total: £5.46
Change: £4.54



Total: £4.95
Change: £5.05



Total: £1.37
Change: £8.63

£4.54 were	£3.24 hotdog	£7.62 in	£2.10 chips
£7.50 dropped	£8.48 found	£5 taco	£8.63 van
£5.05 crumbs	£7.12 shoe	£3.44 burger	£2.54 wrapper

Answer to clue 3:

Burger crumbs were found in the van.

Clue 4 Answers

Whichever answer is repeated the most, is the age of the ice cream wrecker.

$260 \div 20 =$

13

$4121 - 4109 =$

12

$2190 \div$

10

$= 219$

$\frac{1}{10} \text{ of } 150 =$

15

$\frac{1}{3} \text{ of } 36 =$

12

$108 \div 9 =$

12

Number of hours in a day, subtract 10 =

14

$$\begin{array}{r} 121 \\ - 107 \\ \hline \end{array}$$

14

$$\begin{array}{r} 1201 \\ - 1186 \\ \hline \end{array}$$

15

$1 + 3 + 5 - 7 + 8 + 3 =$

13

Answer to clue 4:

The ice cream wrecker is 12 years old.

Clue 5 Answers

Fill in the missing equivalent fractions.

$$1. \quad \frac{1}{2} = \frac{\boxed{5}}{10} = \frac{\boxed{7}}{14} = \frac{3}{6}$$

$$2. \quad \frac{1}{3} = \frac{\boxed{3}}{9} = \frac{\boxed{6}}{18} = \frac{5}{15}$$

$$3. \quad \frac{1}{4} = \frac{\boxed{2}}{8} = \frac{\boxed{4}}{\boxed{16}}$$

4 five	2 footprint	9 found
3 discovered	8 ice-cream	5 freezer
10 lost	7 by	1 there
6 size	12 culprit	16 ten

Answer to clue 5:

Size ten footprint discovered by freezer.

Have you worked out who melted all the ice creams at the Merryvale Fair?

The person who melted all the ice cream was **Quinn McQueen**.