MONDAY - Can I use a number line to solve calculations involving negative numbers?
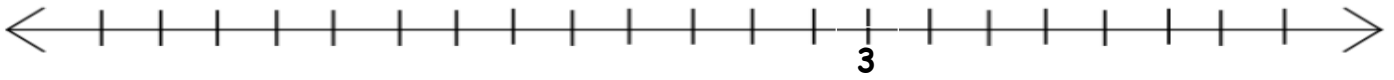
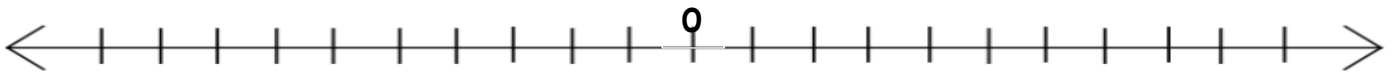Here is a number line. Only 3 is shown.

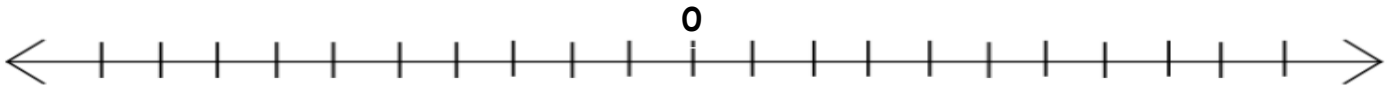1) Place the following numbers correctly on the number line above.

a) 7   b) -5   c) 4   d) -3   e) -8   f) -1.5   g) 5.5
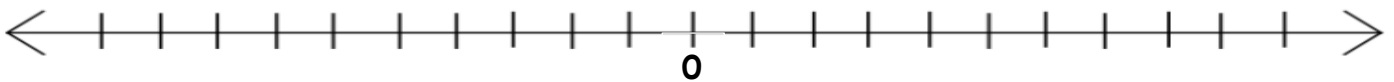
2) Use the number lines below to solve the following.

a) 6 – 9 =

b) 3 – 6 =

c)- 3 – 5 =

3) Circle the biggest number.

a) -2 or -7   b) -5 or -10   c) -6 or -20   d) -13 or -14

4) Put these numbers in order from lowest to highest.

a) -4 , -7 , -1, -5, -8

b) -12, -6 , -15, -9, -21

c) -42, 6, 29, -45, -6

d) 18, -9, -2, 12, -5

Challenge

Solve the following.

a) 4 – 7 =   b) -10 – 6 =   c) -3 – 1 =

d) Susan had £5 in the bank. She spent £10 on shoes. What is her new balance?

e) At 6am the temperature in Bromley was -2°C. By 2pm, it had dropped by 6°C. What was the new temperature in Bromley?

1 Work out these calculations. Use jottings to support your working out.

a 13 – 20   b 17 – 28   c 21 – 30   d 25 – 42

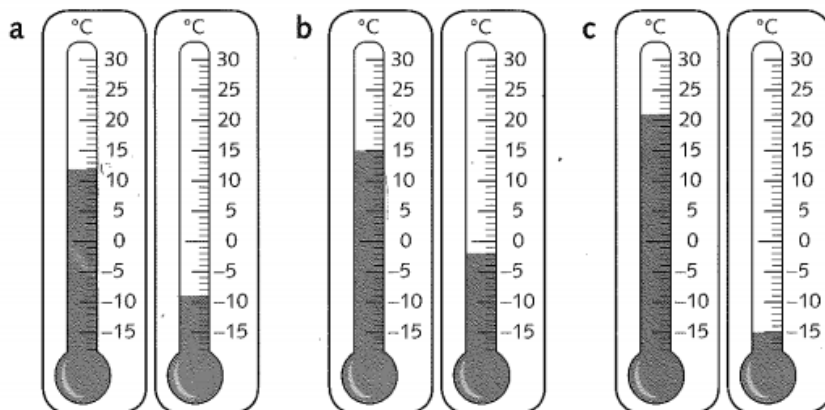e 28 – 53   f 30 – 50   g 37 – 55   h 41 – 67

2 Work out these calculation chains. Use jottings to support your working out.

a (5) – (8) – (3) + (2)   b (2) – (11) + (4) – (3)

c (0) – (3) + (6) – (8)   d (7) – (12) + (8) – (4)

e (3) – (10) + (7) – (5)   f (6) – (13) + (4) – (6)

g (4) – (9) + (10) – (7)   h (1) – (14) – (18) + (9)

Challenge:

Challenge 1 Read the temperatures on each pair of thermometers.
How much has the temperature changed by?

Example

6°C   –7°C

Temperature
difference: 13°C
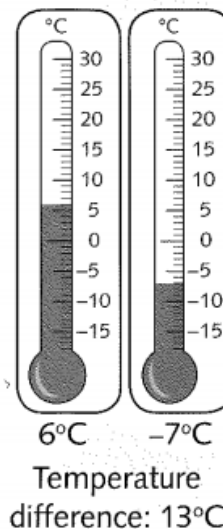
Ch 2) Look at this thermometer. Use it to answer the following questions.

1. The thermometer says – 3 degrees. It then rises by 8 degrees. What is the final reading?

2. The temperature falls from 7 °C to −3 °C. How many degrees does the temperature fall?

3. If the temperature in the evening is 5 °C, how far must it fall to reach −2 °C?

4. The temperature rises to 6 °C from −1 °C in the morning. How far is this?
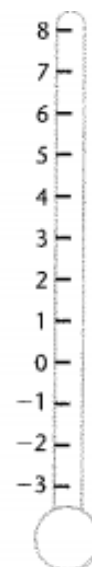
<u>WEDNESDAY - Can I mentally solve calculations involving negative numbers?</u>

1) Copy and complete the following calculations.

a) -2 + 7 =   b) -9 + 5 =   c) -20 + 14 =

d) -2 - -3 =   e) 7 - - 9 =   f) -3 - -5 =

g) 2 + -5 =   h) –4 + -6 = i) 3 + -7 =

5	20	-6	1	-3
-4	22	16	-10	-4
2	12	15	36	9

These answers (for both Qs) are in the wrong order. One is an extra answer. Please check your answers carefully and GPL every three questions. Write your own question where the answer is the number that is left over.

2) Calculate the difference between…

a) 10 and -5   b) 6 and -6   c) 0 and -20   d) -7 and -16   e) -4 and -40

Challenge:

A) Jamie is watching his football team's performance in the league. He writes down the move in places in the table each week. His team starts in 2nd place.

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
2nd place	−1	+2	0	−3	+1

1. What was his team's highest place?
2. Which week did this happen?
3. In which week did they make the biggest jump up?
4. Where did the team finish after 6 weeks?
5. How many weeks did the team not move?

B) In golf, the lower the score, the better. These are Tim's scores in 8 rounds of golf:

Round 1: -2   Round 5: -5
Round 2: 3   Round 6: 3
Round 3: 4   Round 7: 1
Round 4: 0   Round 8: -2

Answer these questions about Tim's golf game:

1. What was his lowest score?
2. What was his highest score?
4. How much better was his 4th round than his 3rd round?
5. Which game showed the best improvement on the previous game?

Optional Extra Challenge:

Try this game out with a member of your family. The resources you need to print are on the page. https://nrich.maths.org/9941

THURSDAY - Can I begin to solve problems involving negative numbers?

1) The difference between -6 and another number is 7. What could the two numbers be?

2) The difference between -15 and another number is 8. What could the two numbers be?

3) Lauren spent £150, but only had £72 in the bank to start with. How much did she over spend by?

4) With the heating on, Chloe's house had a temperature of 22°C. The heating then broke and the temperature dropped by 25°C. What was the temperature in the house now?

5) Mr and Mrs Smith had £2800 in their bank account. At the end of the month they had to pay three bills. Their telephone bill was £110, their gas bill was £315 and their electricity bill was £219.25. They want to book a holiday which would cost them £2599. Should they book the holiday? Explain why you think this using words and calculations.

3 Temperatures are taken on one day in each of five cities.

City	Temperature at midnight	Temperature at midday
Birmingham	2°C	9°C
Leeds	–2°C	8°C
Newcastle	–7°C	2°C
Norwich	3°C	8°C
Nottingham	–4°C	7°C

a) Which city had the lowest temperature at midnight?

b) Which city had the greatest temperature rise between midnight and midday?

c) Which city had the smallest temperature rise between midnight and midday?

Challenge 2

1 Joe has £40 in his bank account on Monday. Work out how much money Joe has in his account after each event described in questions **a** to **d** below. The answer to each question is the balance that Joe has to start with for the next question.

a On Tuesday, he spends £75 on a new pair of trainers. What is his balance now?

b His mum says he must work to earn the money he owes. So, on Wednesday, he works in a shop and gets paid £27. What is his balance now?

c On Thursday, the next door neighbour asks Joe to mow his lawn and pays him £10. What is his balance now?

d On Friday, his favourite band releases a new album. It costs £8.99 to download. What will his balance be if he buys it?

e Do you think he should download the album now or wait until he earns some more money? Explain your reasons.

Friday – Can I develop my Arithmetic skills?

In this session, we will work together on some key arithmetic skills. After the session, complete the Week 3 arithmetic test, which can be found in the Lockdown Home Learning area of the Valley website.

Answers- Monday-Thurs

MONDAY
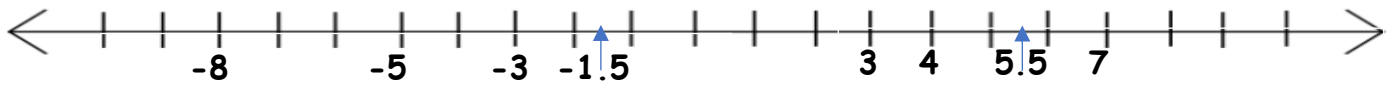
2.

a) -3   b) -3   c) -8

3.

a) -2   b) -5   c) -6   d) -13

4.

a) -8, -7, -5, -4, -1   b) -21, -15, -12, -9, -6

c) -45, -42, -6, 6, 29   d) -9, -5, -2, 12, 18

Challenge:

a) -3   b) -16   c) -4
d) -£5   e) -8˚C

TUESDAY

1.
a) -7   b) -11   c) -9   d) -17
e) -25   f) -20   g) -18   h) -26

2.
a) -4   b) -8
c) -5   d) -1
e) -5   f) -9
g) -2   h) -22

Challenge 1
a) 12˚C & -9 ˚C - Temp difference: 21 ˚C
b) 15 ˚C & -2 ˚C – Temp difference: 17 ˚C
c) 21 ˚C & -15 ˚C – Temp difference: 36 ˚C

Challenge 2
1. 5 ˚C   2. 10 ˚C   3. 7 ˚C   4. 7˚C

WEDNESDAY

1)
a) 5   b) -4   c) -6
d) 1   e) 16   f) 2
g) -3   h) -10   i) -4

2)
a)15   b) 12   c) 20   d) 9   e) 36

Challenge:

A) 1. 1st   2. 3 &4   3. 5   4. 3rd   5. 1

B) 1. -5   2. 4   4. 4   5. 5

THURSDAY

1) -6 & 1   or   -6 & -15
2) -15 & -23   or   -15 & -7
3) -£78
4) -3˚C
5) No they do not have enough money as they only have £2155.75 left after they have paid their bills.

3 (Temperatures of cities)
a) Newcastle
b) Nottingham
c) Norwich

Challenge 2 (Joe's Bank account)
a) £35
b) -£8
c) £2
d) -£6.99
e) He should wait as he does not have enough money in his bank account to afford the album.