

# Homework/Extension

## Step 11: Negative Numbers

### National Curriculum Objectives:

Mathematics Year 5: (5N5) [Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero](#)

### Differentiation:

Questions 1, 4 and 7 (Varied Fluency)

**Developing** Identify and order temperatures on a number line. Using negative numbers in context to -10. Using pictorial support for each question, including number lines with marked increments.

**Expected** Identify and order temperatures on a number line. Using negative numbers in context to -50. Including number lines with some unmarked increments and the same start and end points e.g. -10 to 10.

**Greater Depth** Identify and order temperatures on a number line. Using negative numbers in context to -50. Including number lines with some unmarked increments, where points may fall between increments and the start and end points are different e.g. -30 to 20.

Questions 2, 5 and 8 (Varied Fluency)

**Developing** Match the starting temperature and temperature change to a number line when using negative numbers in context to -10. Using pictorial support, including number lines with marked increments.

**Expected** Match the starting temperature and temperature change to a number line when using negative numbers in context to -50. Including number lines with some unmarked increments and the same start and end points e.g. -10 to 10.

**Greater Depth** Match the starting temperature and temperature change to a number line when using negative numbers in context to -50. Including number lines with some unmarked increments, where points may fall between increments and the start and end points are different e.g. -30 to 20.

Questions 3, 6 and 9 (Reasoning and Problem Solving)

**Developing** Find possible amounts from given clues when using negative numbers in context to -10. Using pictorial support for each question, including number lines with marked increments.

**Expected** Find possible amounts from given clues when using negative numbers in context to -50. Including number lines with some unmarked increments and the same start and end points e.g. -10 to 10.

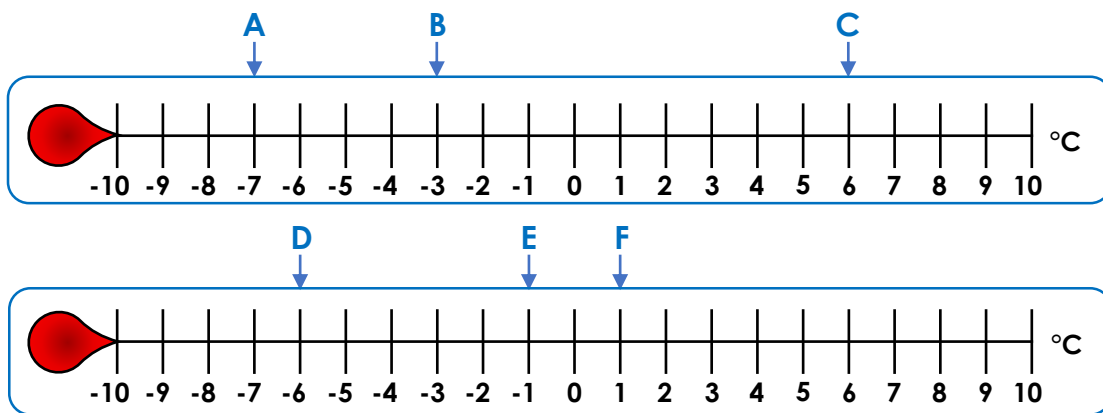
**Greater Depth** Find possible amounts from given clues when using negative numbers in context to -50. Including number lines with some unmarked increments, where points may fall between increments and the start and end points are different e.g. -30 to 20.

More [Year 5 Place Value](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

# Negative Numbers

1. Identify the temperatures marked on the thermometers.

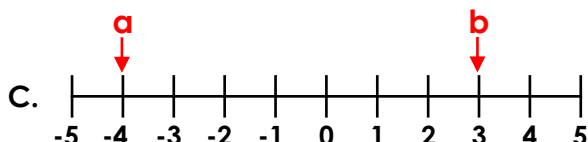
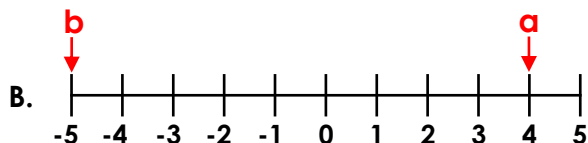


Order the temperatures in ascending order.



VF  
HW/Ext

2. Match the starting temperature to the temperature change and its corresponding number line.



Starting Temperature (Point a)

2°C

-4°C

4°C

Temperature Change (Point b)

-9°C

+7°C

-4°C



VF  
HW/Ext

3. Hafsa is working out how much money she has left in her bank at the end of January, February and March. Mark her balance on the number line for each month.

A. In January, her balance is an odd amount less than -£5

B. In February, her balance is £6 more than in March.

C. In March, her balance is £4 more than in January.



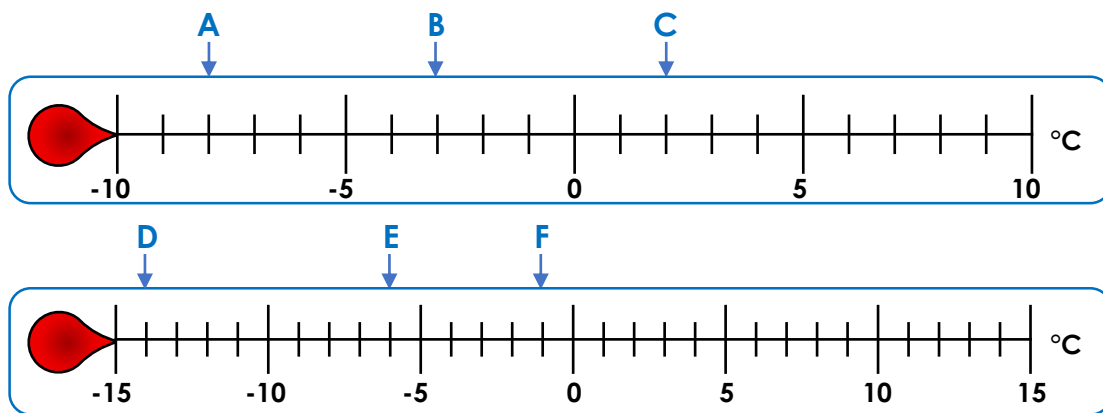
Is there more than one possible answer?



RPS  
HW/Ext

# Negative Numbers

4. Identify the temperatures marked on the thermometers.

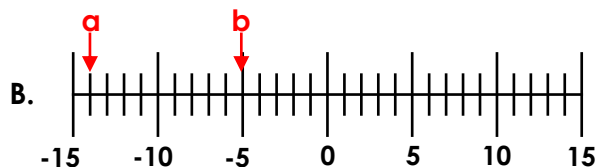
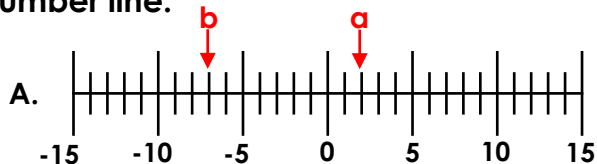


Order the temperatures in descending order.



VF  
HW/Ext

5. Match the starting temperature to the temperature change and its corresponding number line.



Starting  
Temperature (Point a)

2°C

-14°C

5°C

Temperature  
Change (point b)

-12°C

-9°C

+9°C



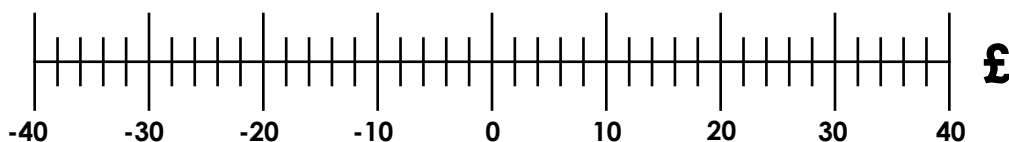
VF  
HW/Ext

6. Steph is working out how much money she has left after her bills are paid in April, May and June. Mark her balance on the number line for each month.

A. In April, her balance is an even amount between -£20 and -£28

B. In May, her balance is £6 more than in June.

C. In June, her balance is £12 less than in April.



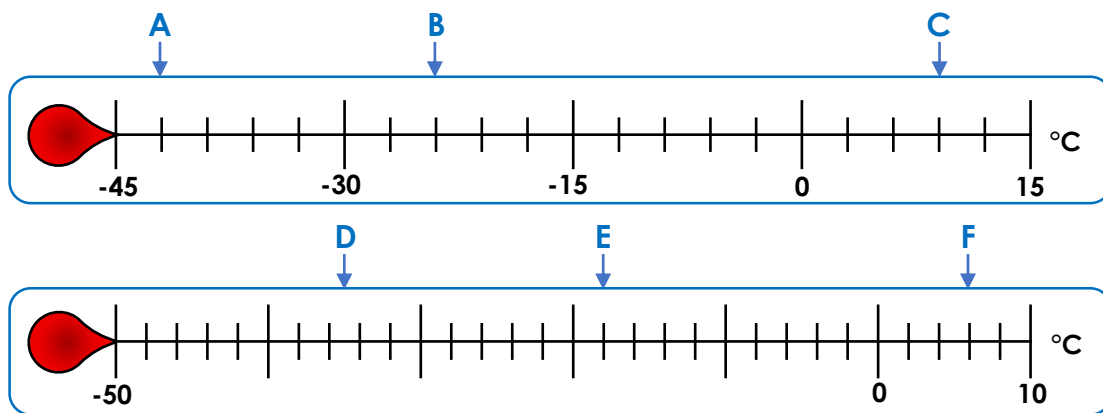
Is there more than one possible answer?



RPS  
HW/Ext

# Negative Numbers

7. Identify the temperatures marked on the number lines.

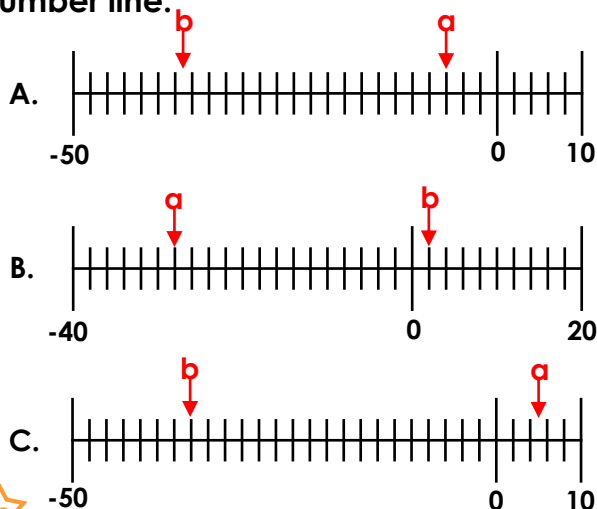


Order the temperatures in descending order.



VF  
HW/Ext

8. Match the starting temperature to the temperature change and its corresponding number line.



Starting  
Temperature (Point A)

Temperature  
change

5°C

+30°C

-6°C

-41°C

-28°C

-31°C



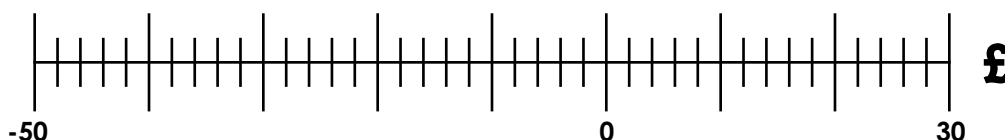
VF  
HW/Ext

9. Josh is working out how much he is overdrawn by after his bills are paid in July, August and September. Mark his balance on the number line for each month.

A. In July, his balance is an odd amount between -£30 and -£40.

B. In August, his balance is £9 less than in September.

C. In September, his balance is £21 more than in July.



Is there more than one possible answer?



RPS  
HW/Ext

## Homework/Extension Negative Numbers

### Developing

1.  $A = -7^{\circ}\text{C}$ ;  $B = -3^{\circ}\text{C}$ ;  $C = 6^{\circ}\text{C}$ ;  $D = -6^{\circ}\text{C}$ ;  $E = -1^{\circ}\text{C}$ ;  $F = 1^{\circ}\text{C}$ ; Order: A, D, B, E, F, C
2. A)  $a = 2^{\circ}\text{C}$ ,  $b = -4^{\circ}\text{C}$ ; B)  $a = 4^{\circ}\text{C}$ ,  $b = -9^{\circ}\text{C}$ ; C)  $a = -4^{\circ}\text{C}$ ,  $b = +7^{\circ}\text{C}$
3. There are two possibilities:  $A = -\text{£}7$ ,  $B = \text{£}3$ ,  $C = -\text{£}3$ ;  $A = -\text{£}9$ ,  $B = \text{£}1$ ,  $C = -\text{£}5$ .

### Expected

4.  $A = -8^{\circ}\text{C}$ ;  $B = -3^{\circ}\text{C}$ ;  $C = 2^{\circ}\text{C}$ ;  $D = -14^{\circ}\text{C}$ ;  $E = -6^{\circ}\text{C}$ ;  $F = -1^{\circ}\text{C}$ ; Order: C, F, B, E, A, D
5. A)  $a = 2^{\circ}\text{C}$ ,  $b = -9^{\circ}\text{C}$ ; B)  $a = -14^{\circ}\text{C}$ ,  $b = +9^{\circ}\text{C}$ ; C)  $a = 5^{\circ}\text{C}$ ,  $b = -12^{\circ}\text{C}$
6. There are three possibilities:  $A = -\text{£}22$ ,  $B = -\text{£}28$ ,  $C = -\text{£}34$ ;  $A = -\text{£}24$ ,  $B = -\text{£}30$ ,  $C = -\text{£}36$ ;  $A = -\text{£}26$ ,  $B = -\text{£}32$ ,  $C = -\text{£}38$ .

### Greater Depth

7.  $A = -42^{\circ}\text{C}$ ;  $B = -24^{\circ}\text{C}$ ;  $C = 9^{\circ}\text{C}$ ;  $D = -35^{\circ}\text{C}$ ;  $E = -18^{\circ}\text{C}$ ;  $F = 6^{\circ}\text{C}$ ; Order: C, F, E, B, D, A
8. A)  $a = -6^{\circ}\text{C}$ ,  $b = -31^{\circ}\text{C}$ ; B)  $a = -28^{\circ}\text{C}$ ,  $b = +30^{\circ}\text{C}$ ; C)  $a = 5^{\circ}\text{C}$ ,  $b = -41^{\circ}\text{C}$
9. There are five possibilities:  $A = -\text{£}31$ ,  $B = -\text{£}19$ ,  $C = -\text{£}10$ ;  $A = -\text{£}33$ ,  $B = -\text{£}21$ ,  $C = -\text{£}12$ ;  $A = -\text{£}35$ ;  $B = -\text{£}23$ ;  $C = -\text{£}14$ ;  $A = -\text{£}37$ ,  $B = -\text{£}25$ ,  $C = -\text{£}16$ ;  $A = -\text{£}39$ ,  $B = -\text{£}27$ ,  $C = -\text{£}18$