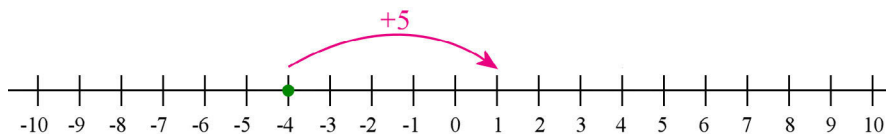


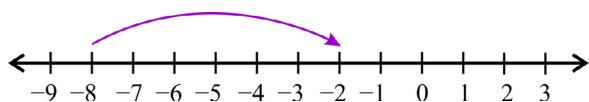
Addition and Subtraction on the Number Line 1

Addition can be modeled on the number line as a movement to the *right*.

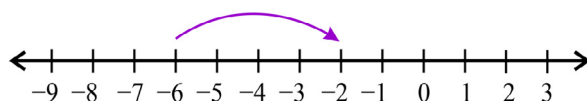
Suppose you are at -4 , and you jump 5 steps to the right. You end up at 1. We write the addition $-4 + 5 = 1$.



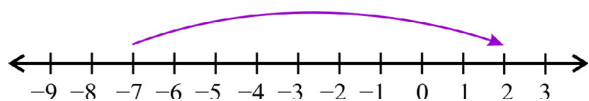
1. Write an addition equation to match each number line jump.



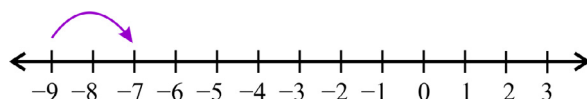
a. $\underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$



b. $\underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

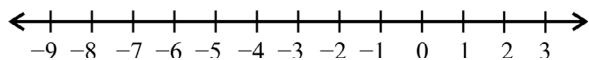


c. $\underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

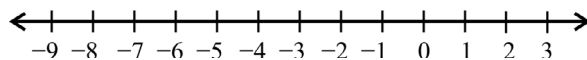


d. $\underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

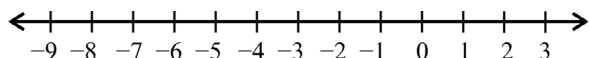
2. Draw a number line jump for each addition equation and solve.



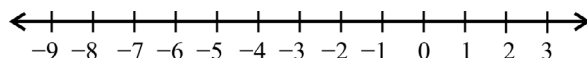
a. $-8 + 3 = \underline{\hspace{1cm}}$



b. $-2 + 5 = \underline{\hspace{1cm}}$



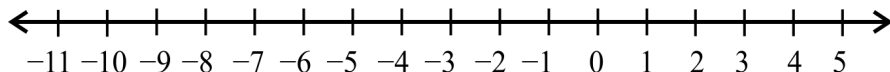
c. $-4 + 4 = \underline{\hspace{1cm}}$



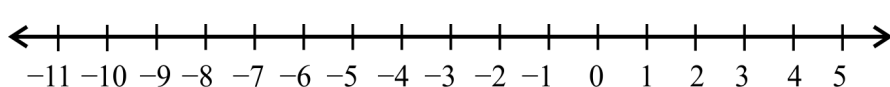
d. $-10 + 12 = \underline{\hspace{1cm}}$

3. What about adding more than one number? How could these additions be illustrated by number line jumps?

a. $-4 + 2 + 3$

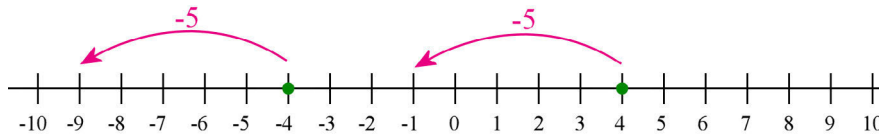


b. $-11 + 6 + 4$



Subtraction can be shown on the number line as a movement to the *left*.

You are at -4 , and you jump 5 steps to the left. You end up at -9 . We write the subtraction $-4 - 5 = -9$.

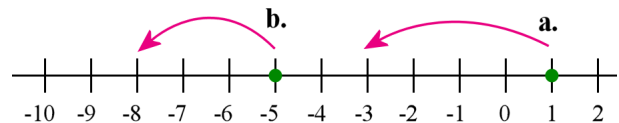


What subtraction does the other jump show? (Check the bottom of the page for the answer.)

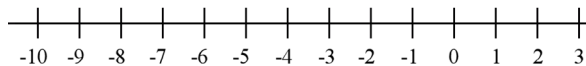
4. Write a subtraction to match each number line jump.

a. _____ $-$ _____ $=$ _____

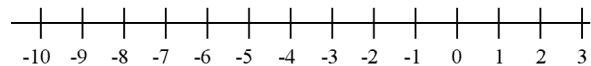
b. _____ $-$ _____ $=$ _____



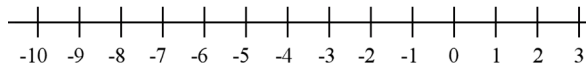
5. Draw a number line jump for each subtraction and complete the subtraction sentence.



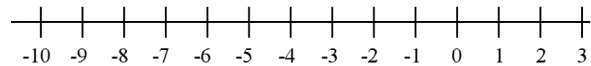
a. $2 - 6 =$ _____



b. $-2 - 5 =$ _____

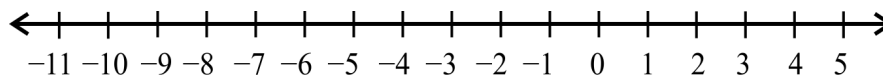


c. $0 - 7 =$ _____



d. $-5 - 4 =$ _____

6. Write an addition or a subtraction equation. You can use the number line to help.



Equation:

a. You are at -3 . You jump 6 to the right. You end up at _____.

b. You are at -3 . You jump 6 to the left. You end up at _____.

c. You are at 2. You jump 7 to the left. You end up at _____.

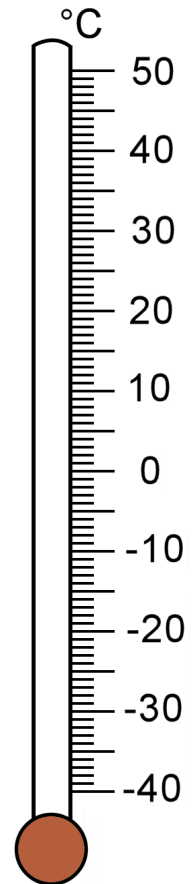
d. You are at -10 . You jump 9 to the right. You end up at _____.

e. You are at -7 . You jump 4 to the right. You end up at _____.

Answer to the question in the second teaching box: $4 - 5 = -1$.

7. The temperature changes from what it was before. Find the new temperature.

before	2° C	0° C	1° C	-2° C	-12° C	-7° C
change	drops 3° C	drops 7° C	drops 5° C	rises 5° C	rises 6° C	rises 3° C
now						



8. Explain how each addition or subtraction can model a change in temperature.

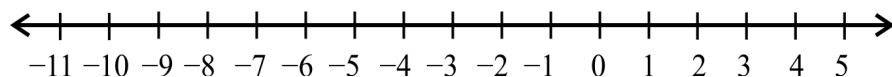
a. $-2 + 4 = 2$

b. $-2 - 4 = -6$

c. $-3 + 3 = 0$

9. Add or subtract. Think of jumps on the number line.

a. $2 - 7 =$	b. $-2 - 2 =$	c. $-3 + 3 =$	d. $-8 + 6 =$
$1 - 5 =$	$-6 - 3 =$	$-6 + 3 =$	$-12 + 4 =$
$5 - 9 =$	$-5 - 2 =$	$-15 + 5 =$	$-11 + 13 =$



10. Find the number that is missing from the equations. Think of jumps on the number line.

a. $1 - \underline{\hspace{2cm}} = -2$	c. $-7 + \underline{\hspace{2cm}} = -4$	e. $1 - \underline{\hspace{2cm}} = -6$	g. $-5 + \underline{\hspace{2cm}} = 0$
b. $3 - \underline{\hspace{2cm}} = -5$	d. $-9 + \underline{\hspace{2cm}} = -4$	f. $0 - \underline{\hspace{2cm}} = -9$	h. $-7 + \underline{\hspace{2cm}} = 7$

11. The expression $1 - 3 - 5 - 7$ can be thought of as a person making jumps on the number line.
Where does the person end up?