



TI-73 EXPLORER™

7TH GRADE ACTIVITY 13:

DO OPPOSITES ATTRACT?

ACTIVITY OVERVIEW:

In this activity we will

- Develop an understanding for adding numbers with opposite signs
- Use the Number line App

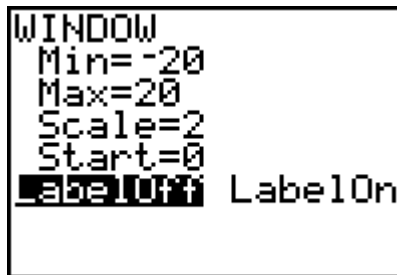


You might be familiar with adding numbers that have the same sign. You add them and the sign remains the same. If you lose \$20 and then later lose another \$20, you've lost \$40 altogether. This would be the same as $-20 + -20$ and would be -40 .

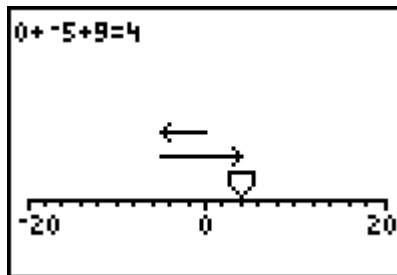
What happens when you are combining numbers with opposite signs? Let's use the Number Line application to investigate this situation. On your TI-73, press the **[APPS]** key and select NUMLINE. Press **[ENTER]** twice and select **1: Number Line**. Press **[ENTER]**.

HINT

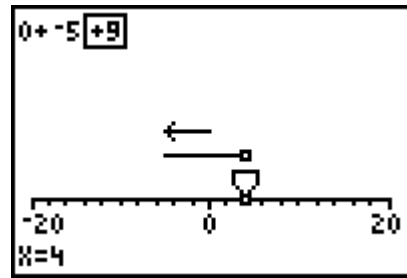
So your window will show the entire problem, press the **[WINDOW]** key and set your minimum to -20 and your maximum to 20.



Enter $-5 + 9$ into the screen and press **[ENTER]**.



Press the up arrow key (\uparrow) three times to get to the 0 on the equation. Use the up and down arrow keys to move through the problem to see where each number takes you on the number line. Where are you on the number line in this screen? Record this in your notebook.



Press **CLEAR** and select **1:YES** to start a new problem

Try these problems and think about where you will end on the number line. Do you think the order matters? If you are not sure, redo the problem by switching the two numbers. You can also arrow up to the problem and press the **DEL** key to remove the parts of the problem to start a new one.

$$\begin{aligned} & -8 + 12 \\ & 20 + (-10) \\ & -18 + 18 \\ & 44 + (-50) \\ & 35 + (-1) \end{aligned}$$

Have you come up with "theory" as to what happens when you add two differently signed numbers? If you have, write and test problems that have opposite signs in the problems but give the answers on the right. Write your problem after the answer once you have checked it.

$$\begin{aligned} -5 &= \underline{\hspace{2cm}} \\ 22 &= \underline{\hspace{2cm}} \\ -1 &= \underline{\hspace{2cm}} \\ -21 &= \underline{\hspace{2cm}} \\ 14 &= \underline{\hspace{2cm}} \end{aligned}$$

See if you can solve these problems with a number missing. Apply your "theory" to find the answer to make the problem correct.

$$\begin{aligned} -8 + \underline{\hspace{1cm}} &= 12 \\ \underline{\hspace{1cm}} + 15 &= -56 \\ -19 + \underline{\hspace{1cm}} &= 19 \\ -3 + \underline{\hspace{1cm}} &= 0 \\ -6 + \underline{\hspace{1cm}} &= -4 \end{aligned}$$