



TI-73 EXPLORER™

7TH GRADE ACTIVITY 12: GETTING NEGATIVE

ACTIVITY OVERVIEW:

In this activity we will

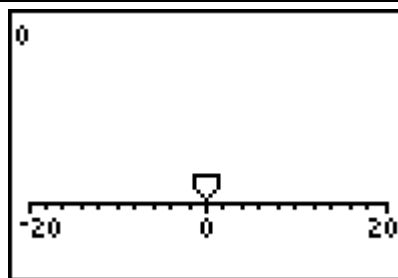
- Develop a conjecture for adding negative integers



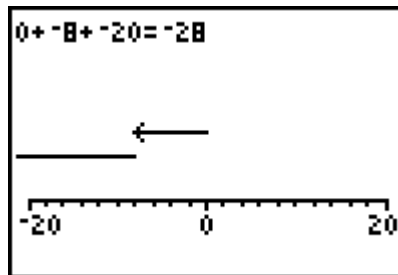
What happens when you add two negative integers? Remember that integers are whole numbers, their opposites (negatives) and 0. You will use the Number Line application on your TI-73 to confirm your conjecture.

What will the result be if we add -8 and -20? First come up with a general rule that you think is true when we add two negative numbers. Write this into your notebook.

First, press the 9 key and select the NUMLINE app. Press β twice to reach the menu and select **1: Number Line** and press β enter again. You should see a screen like the one on the right.



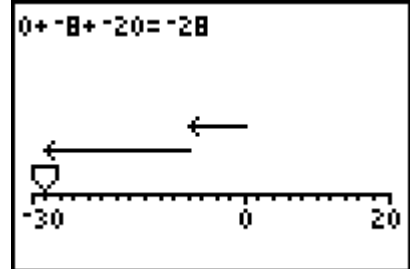
Press -8 \therefore -20. The press β . You will notice that the problem has gone off the screen. In order to adjust the window, we will need to make the minimum less than -28, our answer.



Press the \rightarrow key, and make the minimum slightly less than our answer, perhaps -30

```
WINDOW
Min=-30
Max=20
Scale=2
Start=0
LabelOff LabelOn
```

You will now be able to see the entire problem in the window.



In order to investigate what has happened, press the up arrow key (\uparrow) until you get to the 0. Then press the down arrow key (\downarrow). Each time you press the down arrow key, you will advance one number at a time through the problem and on the number line.

In order to start a new problem, press the $:$ key and select **1: Yes** and press β . This will take you back to the number line. Choose a new set of two negative numbers. You can test your conjecture further by adding new negative numbers to the answers you get. Remember you may have to adjust the window for new problems. Adjust your window so you can see your entire problem in the window.

If your rule works for two negative numbers, should it matter how many negative numbers you add? Try new problems with several negative numbers until you think you can confidently back your conjecture.