

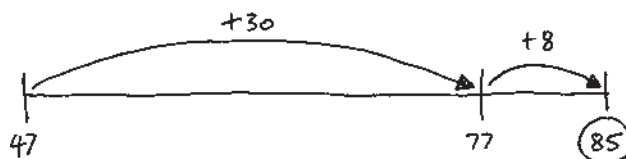
Empty Lines

ACTIVITY

1. Michael, Hine, and Yeu-Ching are trying to work out $47 + 38$ in their heads.

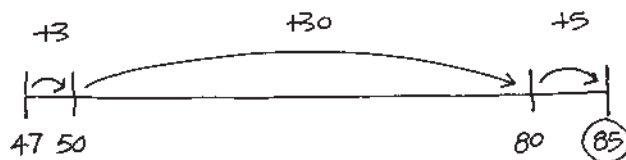
I start with 47. I add 30 first: that makes 77. Then I add on the 8: that's 85.

Michael draws his thinking on an empty number line:



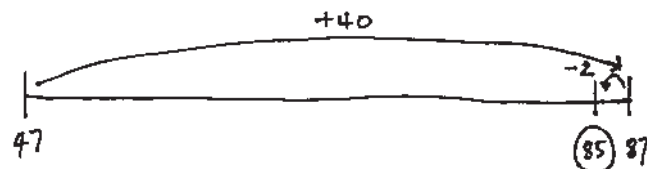
I add 3 to 47 to make 50. Then I add 30 and then 5 (because $3 + 5 = 8$).

Hine draws her thinking like this:



I know 38 is close to 40. I add 40 to 47: that's 87. Then I take off 2.

Yeu-Ching draws his thinking like this:



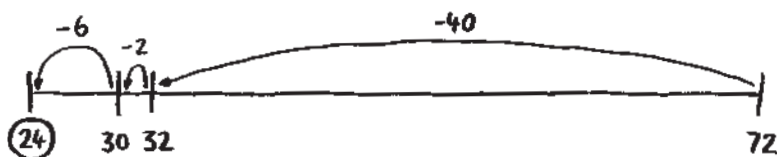
Work out the answers to these problems in your head and show your thinking by drawing on empty number lines:

- | | |
|----------------|-------------------|
| a. $69 + 22$ | b. $45 + 36$ |
| c. $98 + 43$ | d. $146 + 78$ |
| e. $298 + 143$ | f. $638 + 97$ |
| g. $358 + 246$ | h. $2\,643 + 299$ |

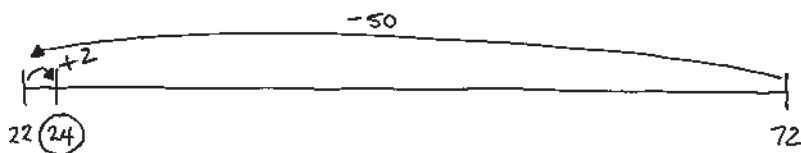
2. Toline, Bharat, and Sonya are trying to work out $72 - 48$ in their heads. Each person then shows their thinking on an empty number line.



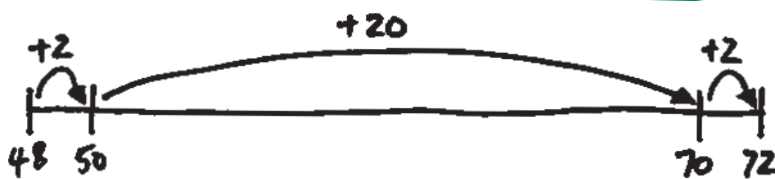
I took off 40 first: that's $72 - 40$ equals 32. Then I took off 2 and then 6. 32 minus 8 is 24.



48 is close to 50. I took off 50: that's $72 - 50 = 22$. Then I added 2, and that makes 24.



I worked out 48 and how many more makes 72. 48 plus 2 is 50, 50 plus 20 is 70, and 70 plus 2 is 72. $20 + 2 + 2 = 24$



By this stage, you may not need to use arrows or +/-.

Work out these subtraction problems in your head and show your thinking by drawing on empty number lines:

- | | |
|----------------|----------------------|
| a. $86 - 32$ | b. $91 - 49$ |
| c. $72 - 25$ | d. $124 - 87$ |
| e. $624 - 299$ | f. $503 - 248$ |
| g. $923 - 488$ | h. $4\,685 - 1\,997$ |

