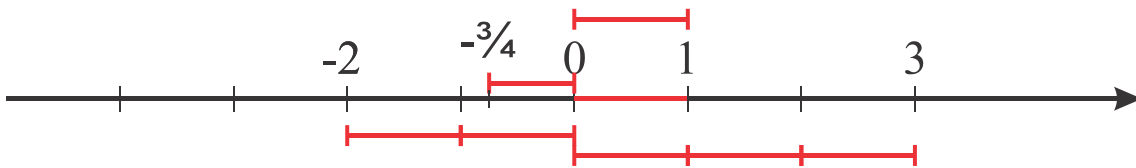


The distance of a number from 0 on the number line is called **the absolute value** of a number. Absolute value of 3 is 3. Absolute value of -3 is 3. The symbol for absolute value is  $| \quad |$ .

Absolute value is always a positive number.

The formal definition of absolute value of any number is:

$$\begin{cases} |a| = a, & \text{if } a \geq 0 \\ |a| = -a, & \text{if } a < 0 \end{cases}$$



### HOMework

1. What does absolute value of a number represent?
2. What are absolute values of numbers:

Example:  $|-7| = 7$

$$|5| = \quad | -5 | = \quad |10| = \quad | -10 | = \quad \left| \frac{1}{2} \right| = \quad \left| -\frac{1}{2} \right| =$$

3. On the line below, mark the points, corresponding to the numbers which absolute values are 1, 3,  $\frac{1}{2}$ , 4.



4. Continue numbers on both sides of the sequence by three numbers:

Example: **a.**  $-40, -39, -38, -37, -36, -35, -34, -33, -32$

a.  $\dots, -37, -36, -35, \dots$  ; b.  $\dots, 2, 3, 4, 5, \dots$  ; c.  $\dots, -98, -97, -96, \dots$  ;

5. Evaluate:      **Example:**  $7 + (-2) = 5$

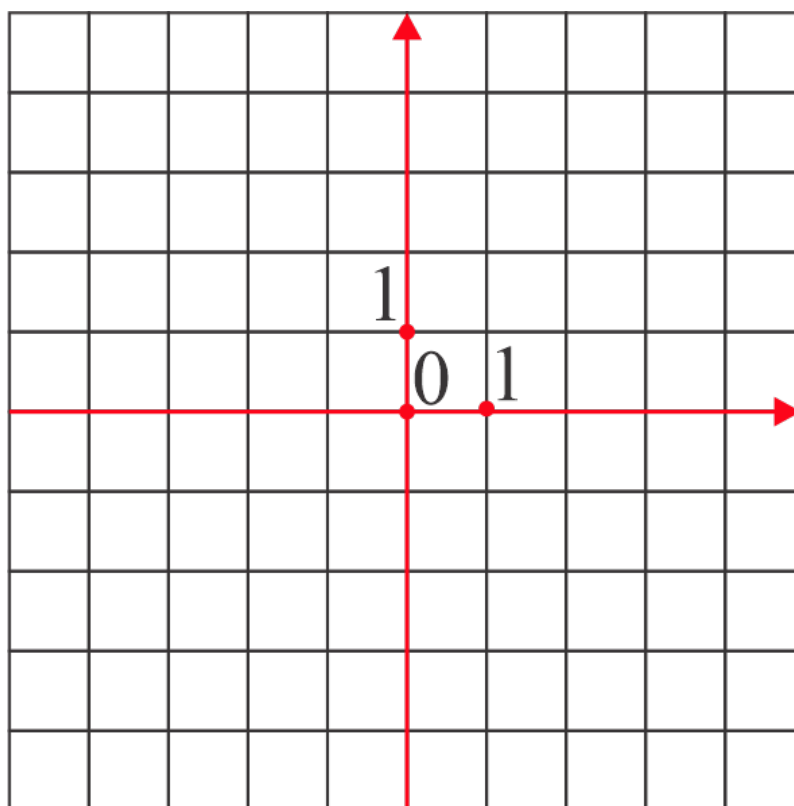
- a.  $(-10) + (+11)$ ;      b.  $(-7) + (-6)$ ;      c.  $(-4) + (+2)$ ;  
d.  $(-12) + (+3)$ ;      e.  $(-15) + (+18)$ ;      f.  $(-11) + (-20)$ ;  
g.  $(+20) + (-21)$ ;      h.  $(-100) + (-150)$ ;      i.  $(-3) + (+4)$ ;

6. Mary solved three times as many math problems as Peter did. Together they solved 48 problems. How many problems did each of them solved?

7. Draw a shape with vertexes in points with coordinates:

- a.  $(-3; 2)$ ,  $(4; 2)$ ,  
 $(4; -2)$ ,  
 $(-3; -2)$

- b.  $(-3; 4)$ ,  
 $(4; 1)$ ,  
 $(0; -3)$



8. a) On a separate quad-ruled sheet of paper draw a coordinate plane like the one above. **Use the ruler!** (Quad-ruled paper is attached to the Homework)

b) Using the following coordinates mark the points and connect them:

$(0; -2) \rightarrow (3; -2) \rightarrow (3; 2) \rightarrow (5; 2) \rightarrow (0; 5)$ .

c) Can you put 3 more points on the coordinate plane to make the drawing look like a symmetrical house? Write coordinates of those points.