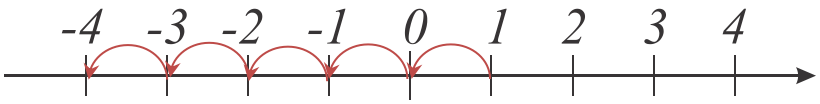
Math 4b.

Addition of negative numbers.
If we add a positive number to any number, we move to the right along the number line. For example:

$$1 + 3 = 4$$

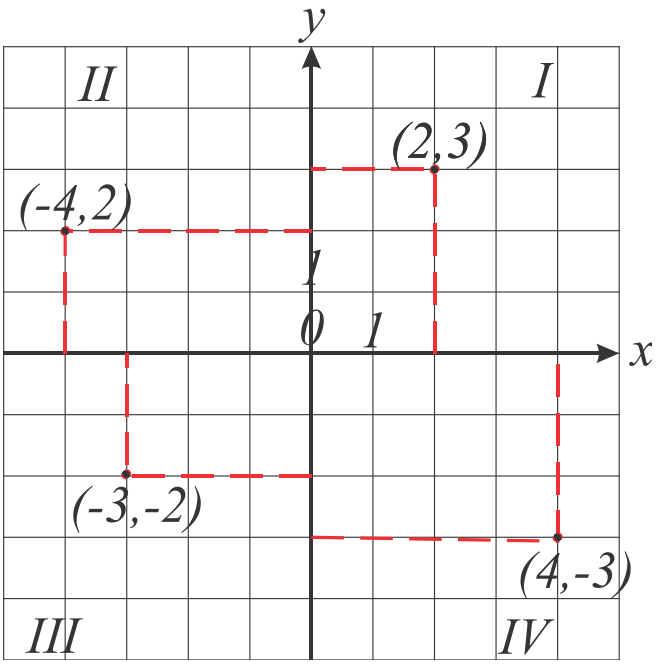
If we add a negative number to any number, we move to the left along the number line. So, adding (−5) is moving 5 units to the left on the number line — which is the same as subtracting 5. For example:

$$1 + (-5) = 1 - 5 = -4$$



Coordinates on a plane.

On a plane each point corresponds to a unique ordered pair of numbers. To define these pairs, 2 perpendicular number lines are usually used. These two number lines intersect at the point called origin, associated with pair (0,0), have the same unit segment, and are called axis, usually *x* and *y* axis.

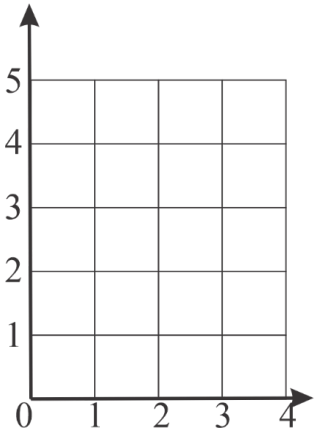


HOMEWORK

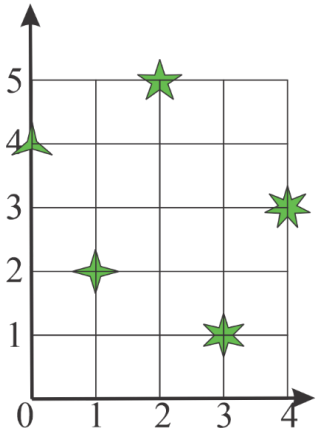
1. Evaluate: **Example: *a*. $7 + (-2) = 5$**

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*. $(-3) - (4) =$

2. Draw stars with corresponding coordinates: Write coordinates of the stars:



(3,0)
(1,3)
(3,4)
(2,1)
(4,5)



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

4. The sum of all numbers in each square is 10. What number should be placed instead of "?" ?

$2\frac{1}{7}$	$5\frac{4}{7}$
$\frac{3}{7}$	?

$1\frac{4}{5}$	$3\frac{2}{5}$
?	$2\frac{1}{5}$

$\frac{5}{9}$	?
$2\frac{7}{9}$	$1\frac{2}{9}$

?	$6\frac{8}{11}$
$\frac{2}{11}$	$2\frac{5}{11}$

5. Which sign $(+, -, \cdot, \div)$ should be placed instead of * to make the following equalities true.

$\frac{7}{8} * 1\frac{1}{7} = 1$

$\frac{3}{7} * \frac{4}{7} = \frac{3}{4}$

$2 * 1\frac{1}{3} = \frac{2}{3}$

$\frac{3}{10} * \frac{5}{6} = \frac{1}{4}$

6. Using the following coordinates mark the points and connect them (**use ruler** to connect points):

(1; -4)→(0; -4) → (1; -3) → (1; -6) → (3; -6) → (2; -5) → (3; -1) → (2; 2) →

(4; 3) → (5; 4) → (3; 4) → (2; 5) → (1; 5) → (0; 6) → (0; 5) → (-1; 3) →

(0; 0) → (-2; -1) → (-3; -4) → (-3; -5) →

(-4; -5) → (-5; -4) → (-6; -3) → (-5; -5) → (-3; -6) → (1; -6)

eye (2; 4).