Algebra 3-4: 2-D Slides

Warm-Up

Plot each point.

1. A (2, 5)
2. B (0, 4)
3. C (-2, 0)
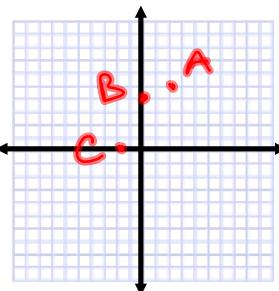
Add.

1. 5 + (-8)   -3
2. - 4 + - 3   -7
3. -6 + 9   3

| Vocabulary	Definition	Example
Translation	2-D Slide	See examples
2-D Slide	· moving a shape or a point · does not change shape/size	
Pre-image	— the original shape — the one we start with	
Image	the shape after it's moved	
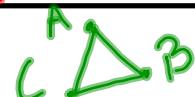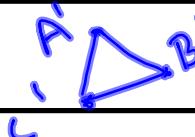
Examples

A

1. Slide the point (5, -2) up 3 units. $(5,1)$ A'

A

2. Slide the point (5, -2) left 7 units. $(-2,-2)$ A'

3. Slide the point (x, y) up 3 units. $(x, y+3)$

4. Slide the point (x, y) left 7 units. $(x-7, y)$

(x, y)

left   right   up
  +   subtract

5. XYZ has coordinates, X (3, 2), Y (1, -2), and Z (-1, 3).

On the coordinate plane, slide the entire triangle 3 units

to the right and 4 down. Name the coordinates of X'Y'Z'.

$(x+3, y-4)$

Z(-1,3)   X(3,2)

X'(6,-2)

Z'
(2,-1)   Y(1,-2)

Y'(4,-6)
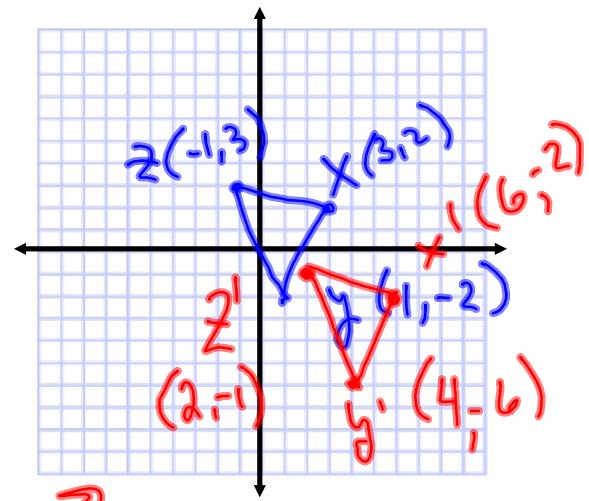
6. ABC has coordinates, A (3, 2), B (1, -2), and C (-1, 3).

Slide the entire triangle r units to the left and d units up.

Name the coordinates of A'B'C'.

A' $(3-r, 2+d)$ B' $(1-r, -2+d)$ C' $(-1-r, 3+d)$

7. Explain the translation that occurred in the plane below.

right 1, down 3

$(x+1, y-3)$
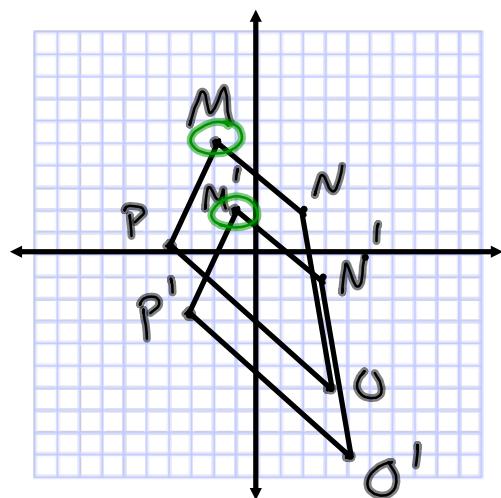
8. Translate MNO under the given translation. $(x, y) \to (x - 3, y + 4)$

left 3   up 4