

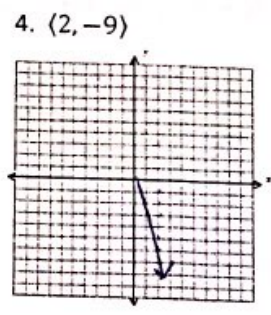
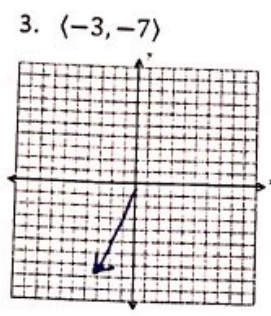
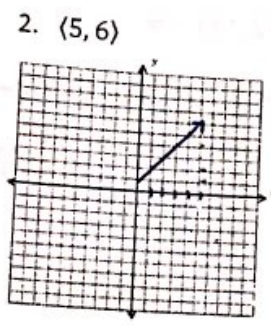
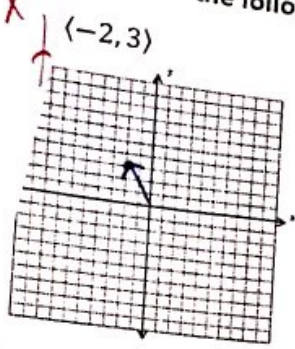
1st day

Name: Rey

2022

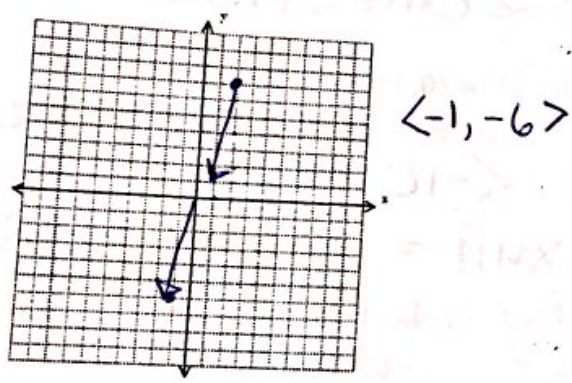
### Drawing Vectors, YAY!

Draw each of the following vectors.

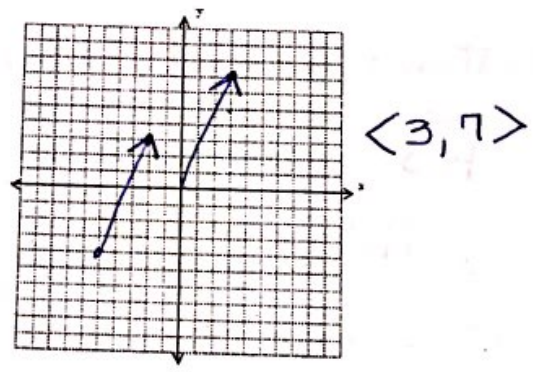


Draw the vector between the points. The first point is the tip, the second point is the tail. Find the component form, then draw a vector with the same component form in a different location.

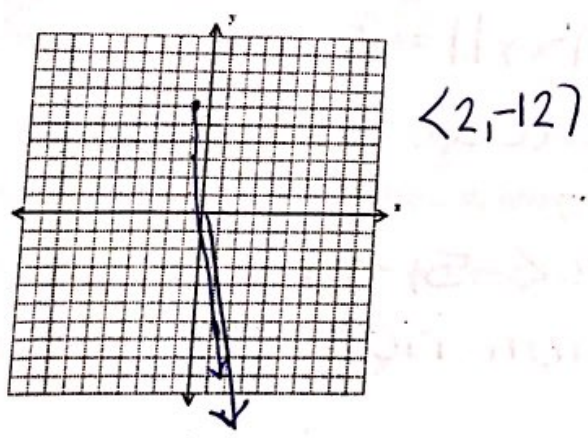
5.  $(2, 7)$  and  $(1, 1)$



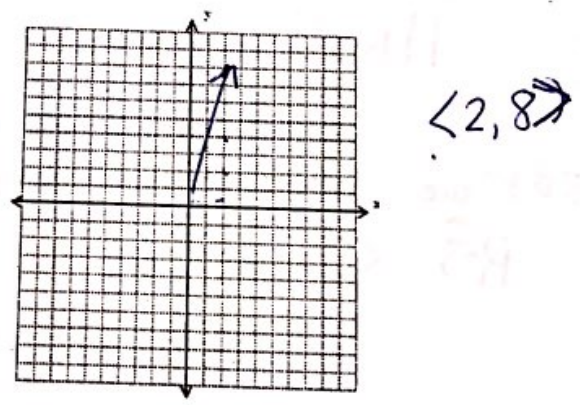
6.  $(-5, -4)$  and  $(-2, 3)$



7.  $(-1, 6)$  and  $(1, -6)$



8.  $(0, 0)$  and  $(2, 8)$



\* Component Vectors Start at  $(0, 0)$

\* Notice: Same direction - different spots (line //) but equivalent

Name: \_\_\_\_\_

## VECTORS. Yay.

Determine whether the following vectors are equivalent. Show ALL of your work for credit.

1.  $\overrightarrow{RS} = \overrightarrow{XY}$  given that  $R = (-3, 7)$   $S = (0, 4)$   $X = (-2, 11)$   $Y = (1, 14)$

$$\overrightarrow{RS} = \langle 3, -3 \rangle \quad \overrightarrow{XY} = \langle 3, 3 \rangle$$

no; not same direction

2.  $\overrightarrow{RS} = \overrightarrow{XY}$  given that  $R = (2, 0)$   $S = (-6, 8)$   $X = (4, 4)$   $Y = (12, -4)$

$$\overrightarrow{RS} = \langle -8, 8 \rangle \quad \overrightarrow{XY} = \langle 8, -8 \rangle$$

no; not same direction

3.  $\overrightarrow{RS} = \overrightarrow{XY}$  given that  $R = (9, -5)$   $S = (-1, -1)$   $X = (10, 0)$   $Y = (0, 4)$

$$\overrightarrow{RS} = \langle -10, 4 \rangle \quad \overrightarrow{XY} = \langle -10, 4 \rangle$$

$$\|\overrightarrow{RS}\| = \sqrt{116}$$

$$\|\overrightarrow{XY}\| = \sqrt{116}$$

direction  
same  
now  
magn

Yes same direction &amp; Magnitude

4.  $\overrightarrow{RS} = \overrightarrow{XY}$  given that  $R = (-11, 17)$   $S = (9, 6)$   $X = (4, 3)$   $Y = (24, -8)$

$$\overrightarrow{RS} = \langle 20, -11 \rangle \quad \overrightarrow{XY} = \langle 20, -11 \rangle$$

$$\|\overrightarrow{RS}\| = \sqrt{521}$$

$$\|\overrightarrow{XY}\| = \sqrt{521}$$

direction  
same

yes: Same direction &amp; Mag

5.  $\overrightarrow{RS} = \overrightarrow{XY}$  given that  $R = (3, -7)$   $S = (8, 12)$   $X = (8, 12)$   $Y = (3, -7)$

$$\overrightarrow{RS} = \langle 5, 19 \rangle \quad \overrightarrow{XY} = \langle -5, -19 \rangle$$

no: direction not the same



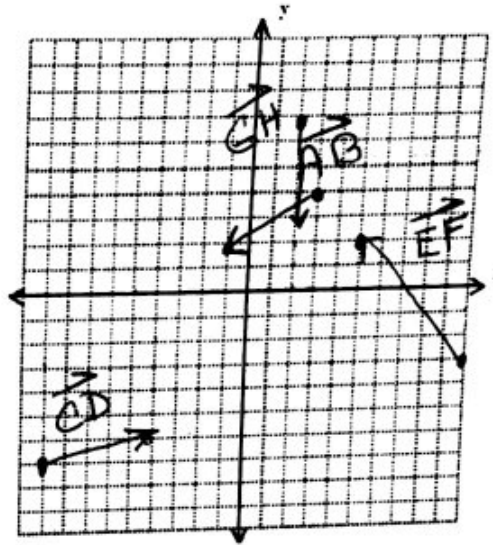
Draw each of the vectors on the grid below. Label each vector with the letters used.

6.  $A = (3, 4)$   $B = (-1, 2)$

7.  $C = (-9, -7)$   $D = (-4, -6)$

8.  $E = (10, -3)$   $F = (5, 2)$

9.  $G = (2, 7)$   $H = (2, 3)$



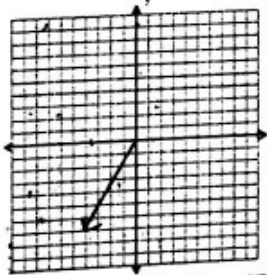
10. Find the direction (component form) and magnitude for problems 8 and 9.

8.)  $\vec{EF} = \langle -5, 5 \rangle$   
 $\|\vec{EF}\| = \sqrt{50}$   
 $= 5\sqrt{2}$

9.)  $\vec{GH} = \langle 0, -4 \rangle$   
 $\|\vec{GH}\| = \sqrt{16}$   
 $= 4$

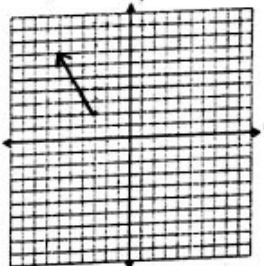
Find the direction and magnitude for each of the following.

11.



$\langle -4, -7 \rangle$   
 $\sqrt{65}$

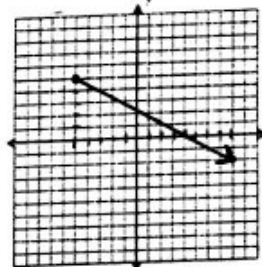
12.



$\langle -3, 5 \rangle$   
 $\sqrt{34}$

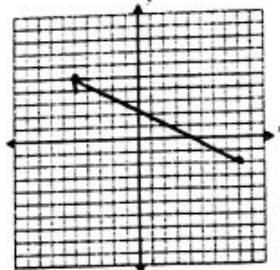
$(-3, 2)$   $(-6, 13)$

$(-5, 5)$   
 $(8, -2)$



$\langle 13, -7 \rangle$   
 $\sqrt{218}$

14.



$\langle -13, 7 \rangle$   
 $\sqrt{218}$

Use the given information to find the following resultant vectors algebraically.

$\vec{v} = (3, 2)$   $\vec{u} = (-6, 2)$   $R = (-2, 11)$   $S = (4, -5)$   $T = (10, 3)$

15.  $\vec{u} + \vec{v} = \langle -3, 4 \rangle$

16.  $\vec{u} - \vec{v} = \langle -9, 0 \rangle$

17.  $\vec{u} + \vec{RS} = \langle 0, -14 \rangle$

18.  $\vec{RS} - \vec{ST} = \langle 0, -24 \rangle$

$\vec{RS} = \langle 6, -16 \rangle$

$\vec{RS} = \langle 6, -16 \rangle$   
 $\vec{ST} = \langle 6, 8 \rangle$

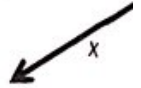
19.  $2\vec{u} + 3\vec{v}$

$\langle -12, 4 \rangle \langle 9, 6 \rangle$   
 $\langle -3, 10 \rangle$

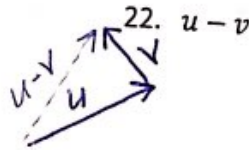
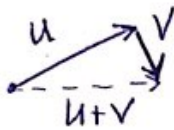
20.  $3\vec{ST} - \vec{RT}$

$\langle 18, 24 \rangle \langle 12, -8 \rangle$   
 $\langle 6, 32 \rangle$

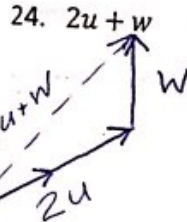
Find the resultant vector geometrically.



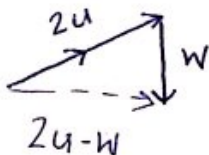
21.  $u + v$



23.  $3v$



25.  $2u - w$



26.  $w + 2x$

