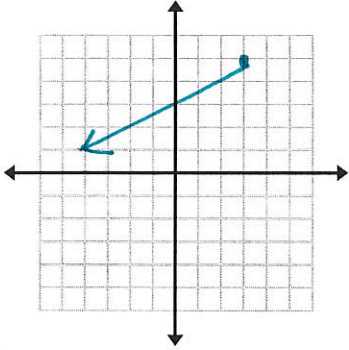


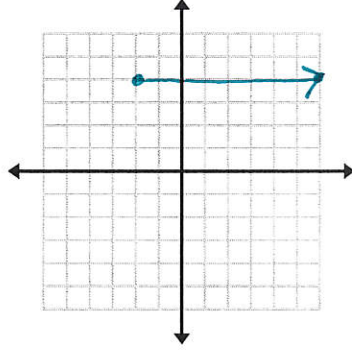
### Introduction to Vectors

Draw the vector described.

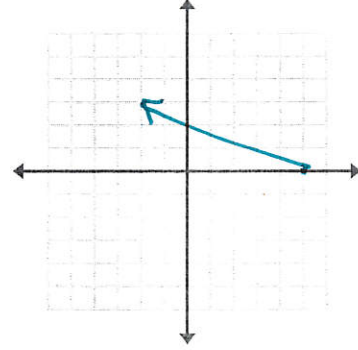
1.  $P_i(3, 5)$   $P_f(-4, 1)$



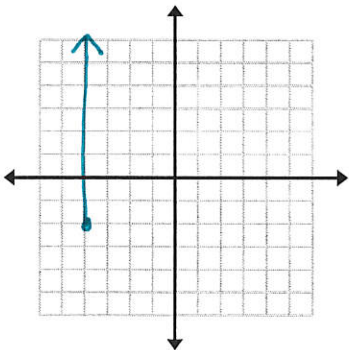
2.  $P_i(-2, 4)$   $P_f(6, 4)$



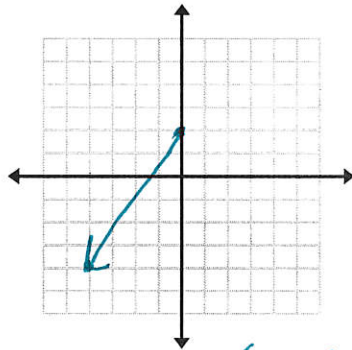
3.  $P_i(5, 0)$   $P_f(-2, 3)$



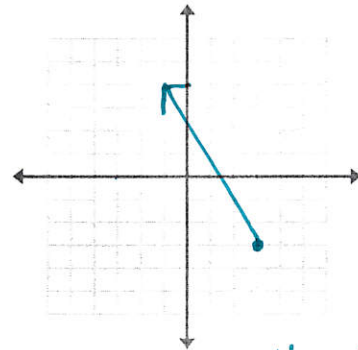
4.  $P_i(-4, -2)$   $P_f(-4, 6)$



5.  $P_i(0, 2)$   $P_f(-4, -4)$

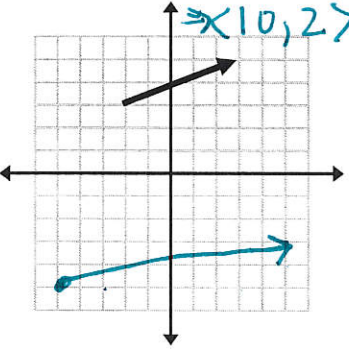


6.  $P_i(3, -3)$   $P_f(-1, 4)$



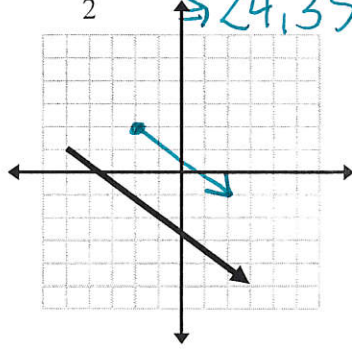
7.  $2\vec{v}$

$\langle 5, 2 \rangle$   
 $\Rightarrow \langle 10, 4 \rangle$



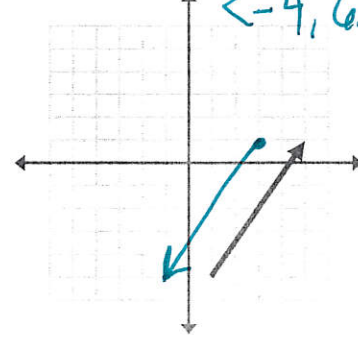
8.  $\frac{1}{2}\vec{v}$

$\langle 8, 6 \rangle$   
 $\Rightarrow \langle 4, 3 \rangle$

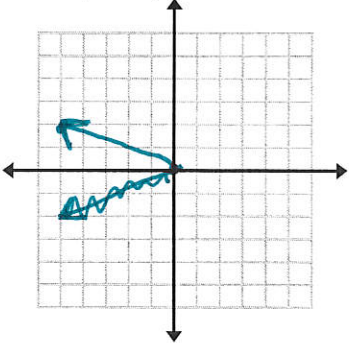


9.  $-\vec{v}$

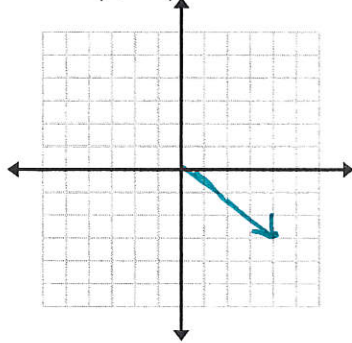
$\langle 4, 6 \rangle$   
 $\Rightarrow \langle -4, -6 \rangle$



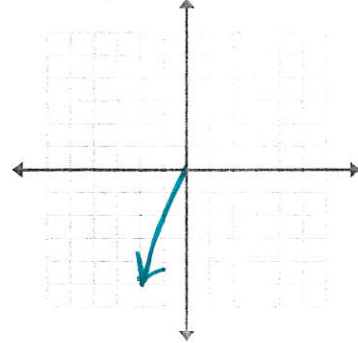
10.  $\langle -5, 2 \rangle$



11.  $\langle 4, -3 \rangle$

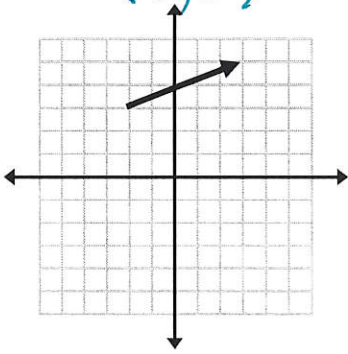


12.  $\langle -2, -5 \rangle$

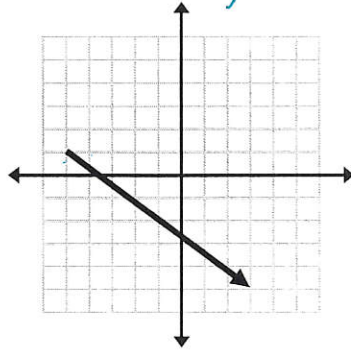


Write the component form of each vector.

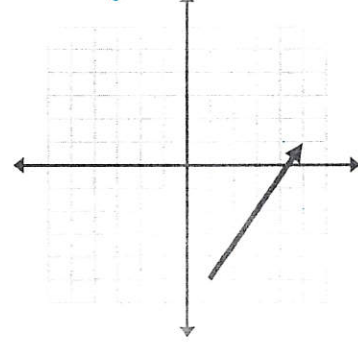
13.  $\langle 5, 2 \rangle$



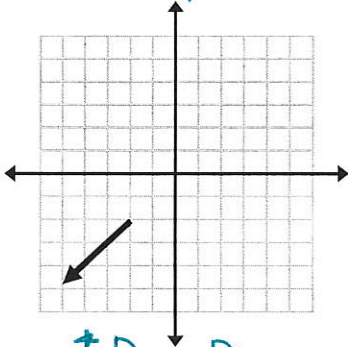
14.  $\langle 8, -6 \rangle$



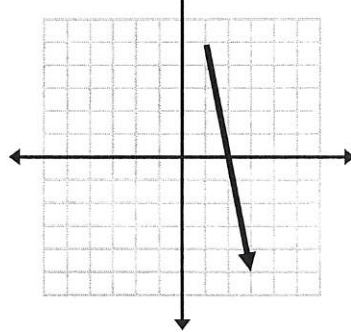
15.  $\langle 4, 6 \rangle$



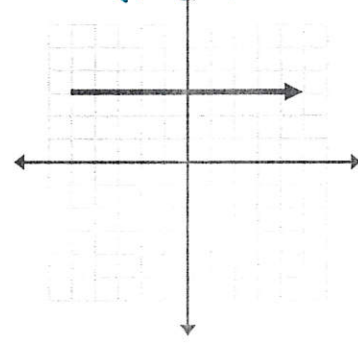
16.  $\langle -3, -3 \rangle$



17.  $\langle 2, -10 \rangle$



18.  $\langle 10, 0 \rangle$



19.  $P_i(3, 5) \quad P_t(-4, 1)$   
 $+ P_t - P_i$

$\langle -7, 4 \rangle$

22.  $P_i(-4, -2) \quad P_t(-4, 6)$

$\langle 0, 8 \rangle$

25.  $P_i(12, -9) \quad P_t(-7, 10)$

$\langle -19, 19 \rangle$

20.  $P_i(-2, 4) \quad P_t(6, 4)$

$\langle +8, 0 \rangle$

23.  $P_i(0, 2) \quad P_t(-4, -4)$

$\langle -4, -6 \rangle$

26.  $P_i(0, -15) \quad P_t(-40, 7)$

$\langle -40, 22 \rangle$

21.  $P_i(5, 0) \quad P_t(-2, 3)$

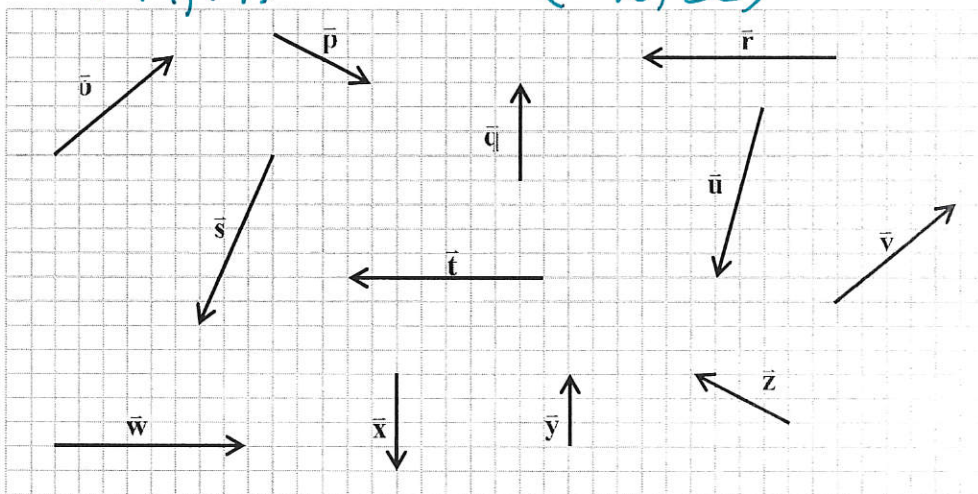
$\langle -7, +3 \rangle$

24.  $P_i(3, -3) \quad P_t(-1, 4)$

$\langle -4, 7 \rangle$

27.  $P_i(23, -13) \quad P_t(19, 7)$

$\langle -4, 20 \rangle$



28. Match up any two vectors in the drawing that are equal and list them.

$r \neq t \quad o \neq v \quad s \neq u$

29. Why are  $\vec{q}$  and  $\vec{x}$  considered to be different vectors?

They do not have the same direction