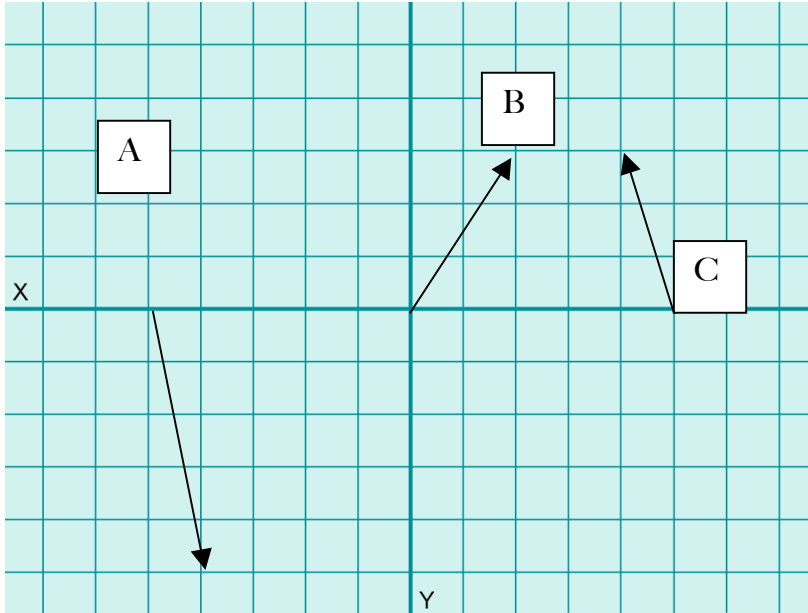


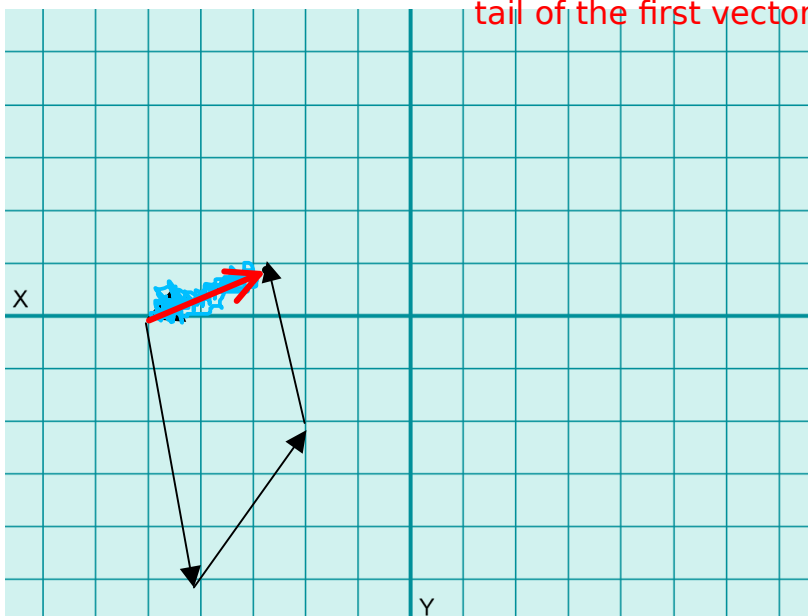
For this activity you will be adding vectors using the head to tail method. Each mm will be equal to a man walking 3 meters, per minute. Use the graphs to create a resultant vector. For Example:

If these are my three vectors:



And I place the B vector on to the A vector I would see that vector B is two right and 3 up. So it would be attached to the arrow end of vector A in the same shape and direction. The same is true for vector C. It is 1 left and 3 up. It should start at the end of B and have the same magnitude (length) and direction. so the resultant would be as seen below:

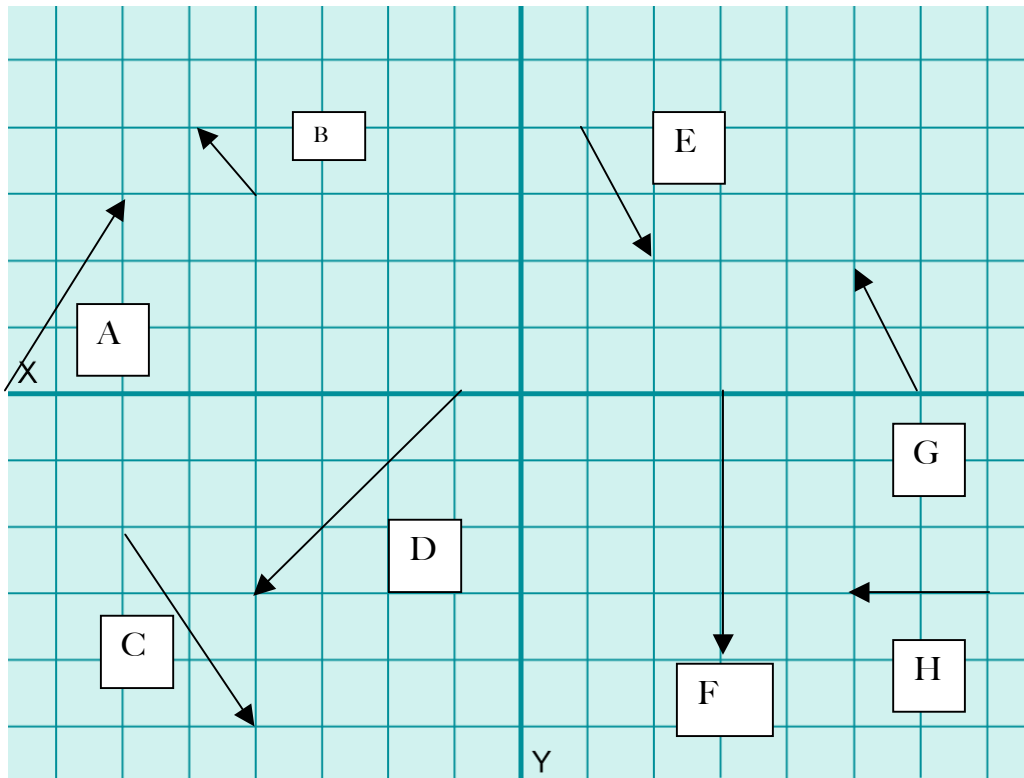
The resultant is the red vector that points from the tail of the first vector to the TIP of the last vector.



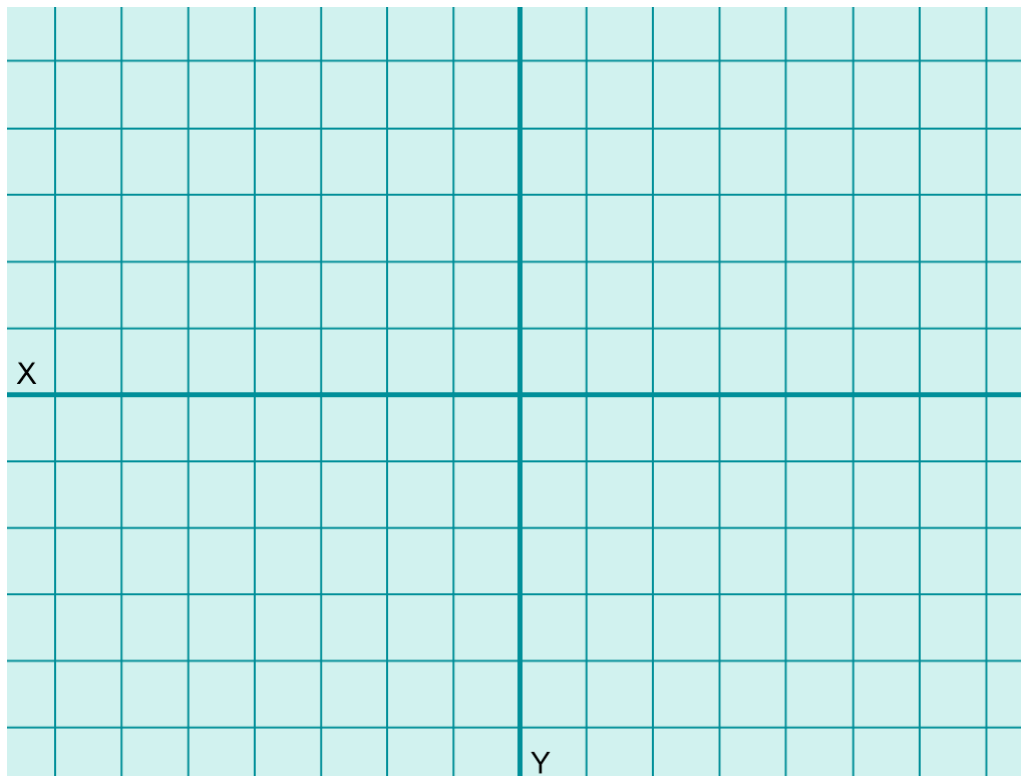
Now I can use a ruler and a protractor to find the resultant direction and magnitude.

Now you try.

Given the following vectors, create head to tail models and find the resultant magnitude and direction. the arrows are not perfect but use the corner that they are closest to:

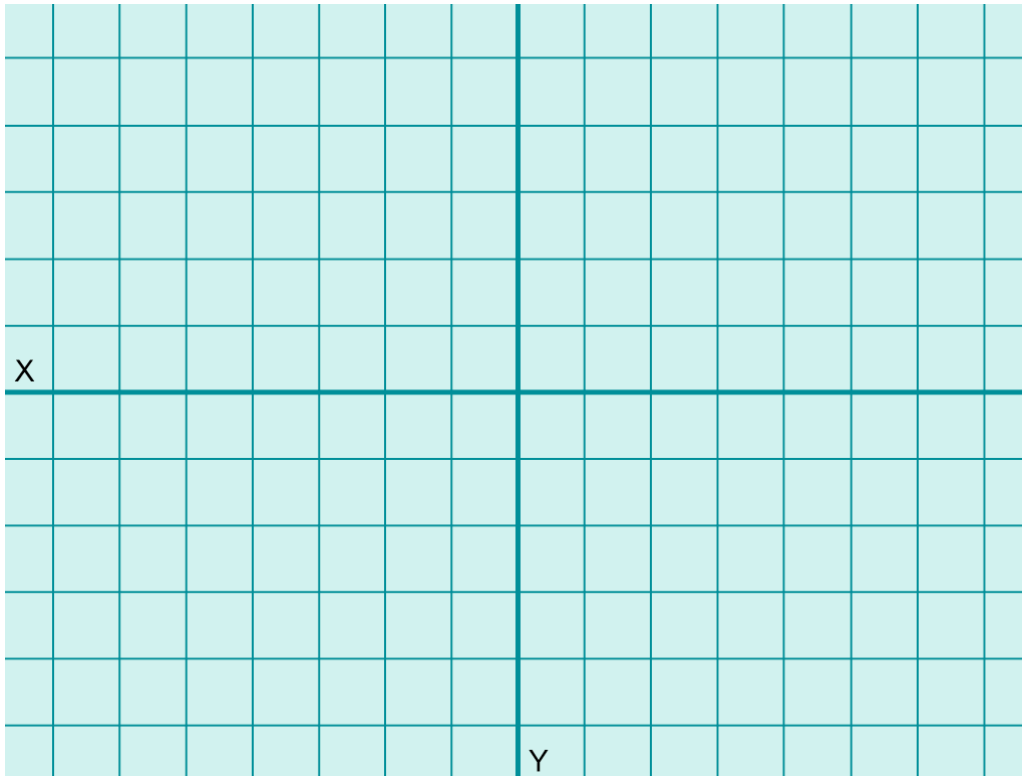


i. $A + E + F$



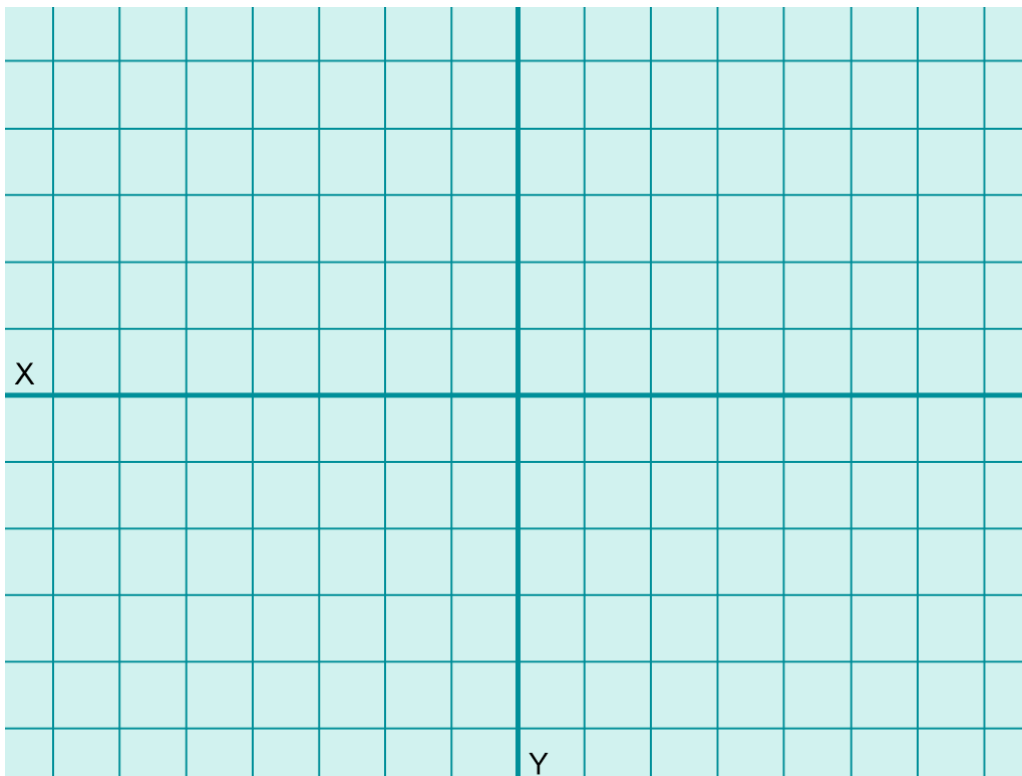
Magnitude = _____ Direction = _____

2. $D + A + F$



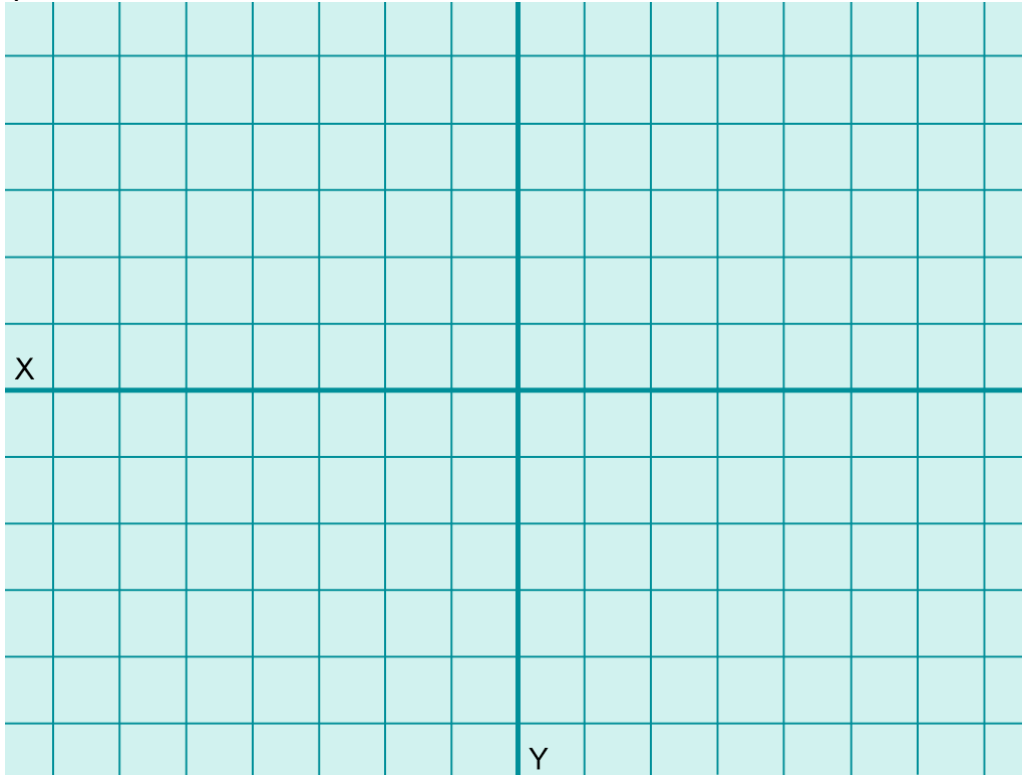
Magnitude = _____ Direction = _____

3. $D + G + A$



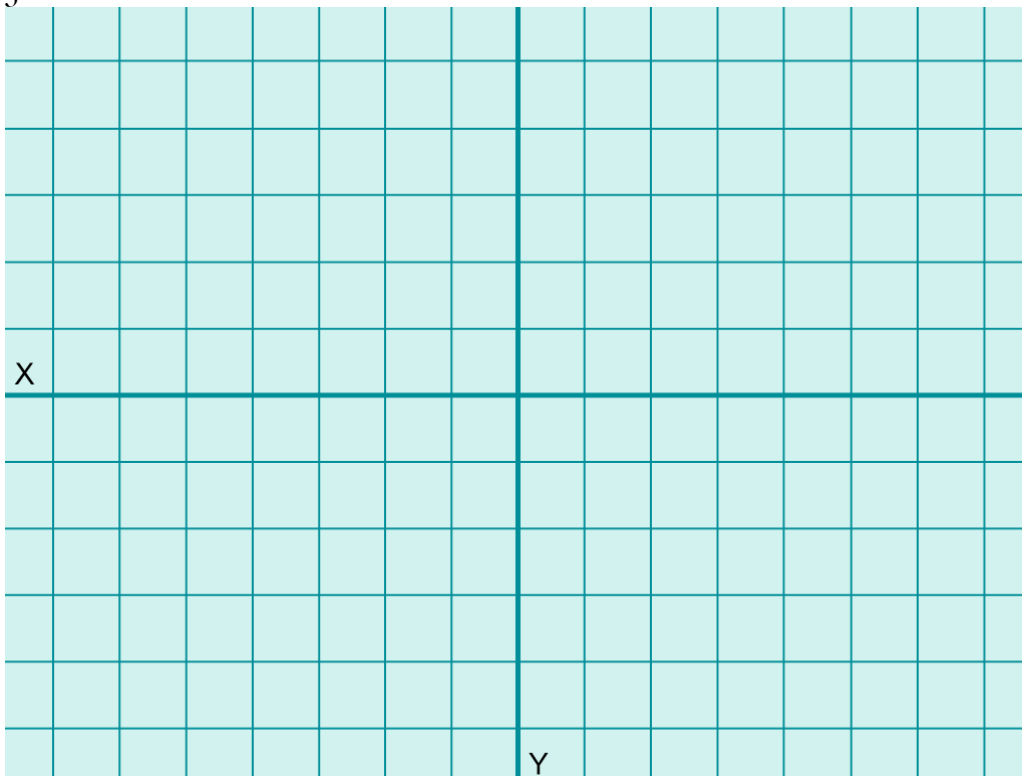
Magnitude = _____ Direction = _____

4. $F + G + H$



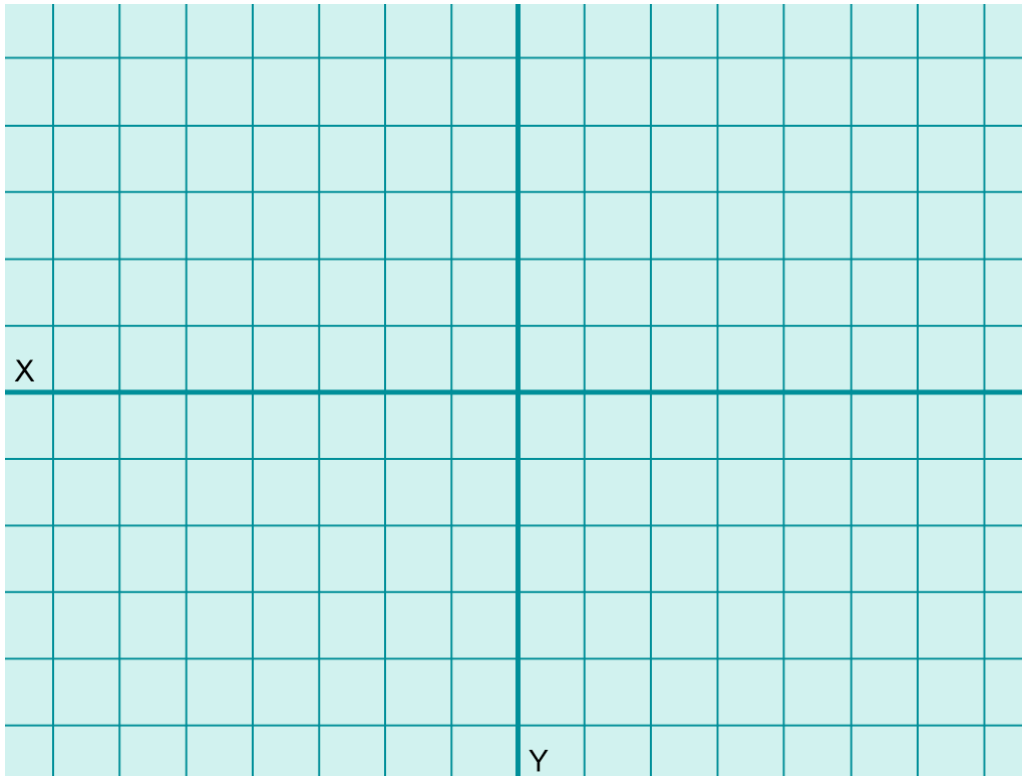
Magnitude = _____ Direction = _____

5. $F + H + G$



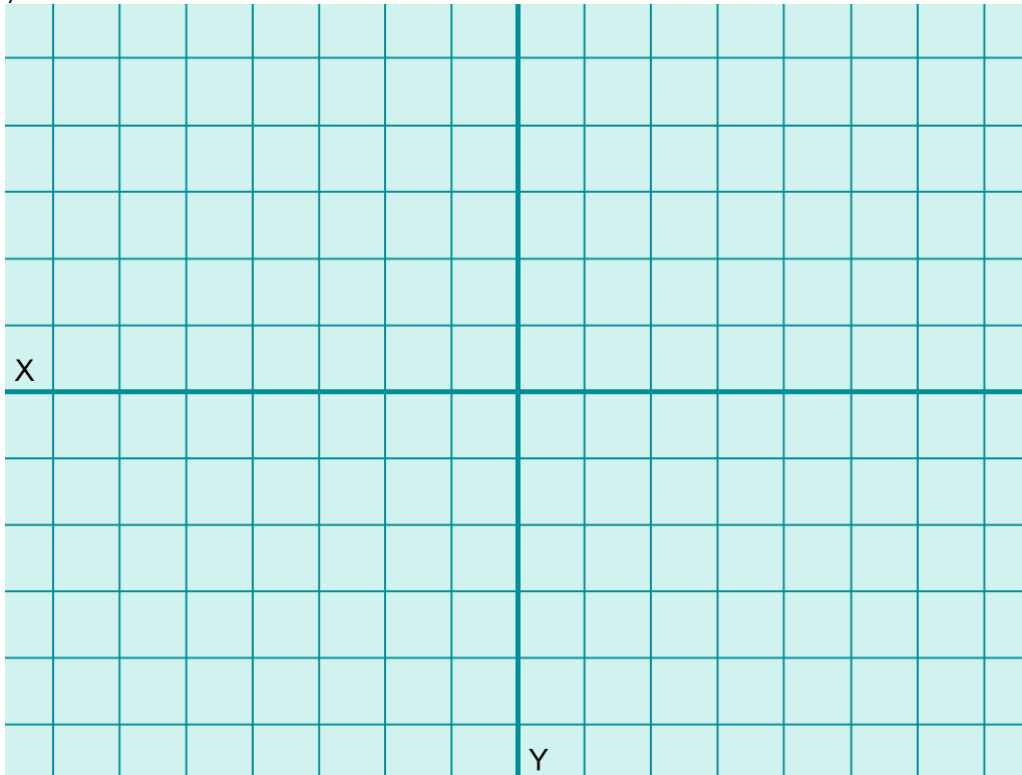
Magnitude = _____ Direction = _____

6. $E + H + B$



Magnitude = _____ Direction = _____

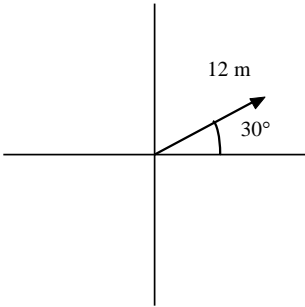
7. $F + E + G + A + B$



Magnitude = _____ Direction = _____

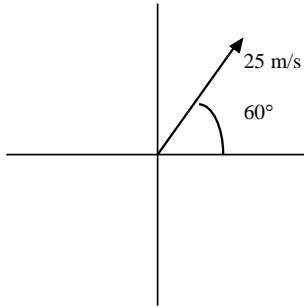
Part I:

Find the x and y components of each of the following vectors.



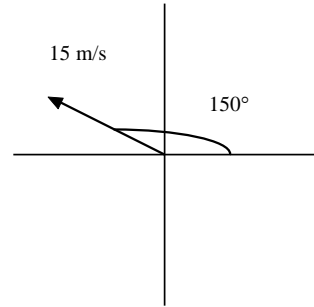
x = _____

y = _____



x = _____

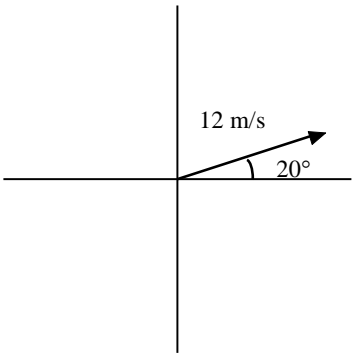
y = _____



x = _____

y = _____

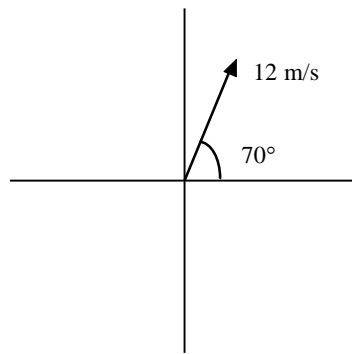
Add the following vectors.



$x_1 =$ _____

$y_1 =$ _____

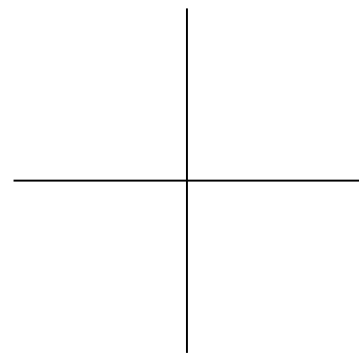
+



$x_2 =$ _____

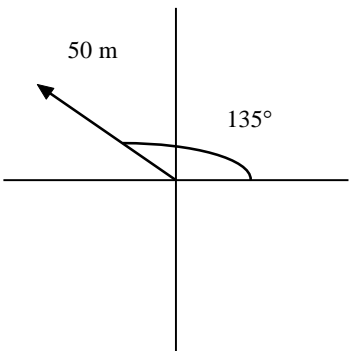
$y_2 =$ _____

=



$x_{tot} =$ _____

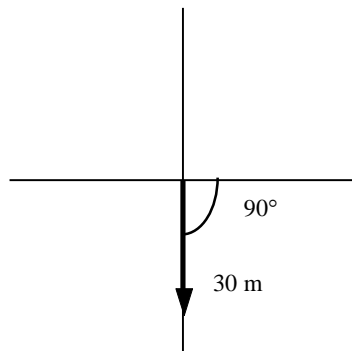
$y_{tot} =$ _____



$x_1 =$ _____

$y_1 =$ _____

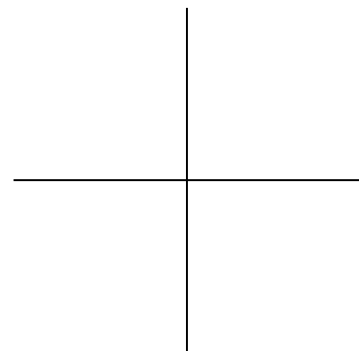
+



$x_2 =$ _____

$y_2 =$ _____

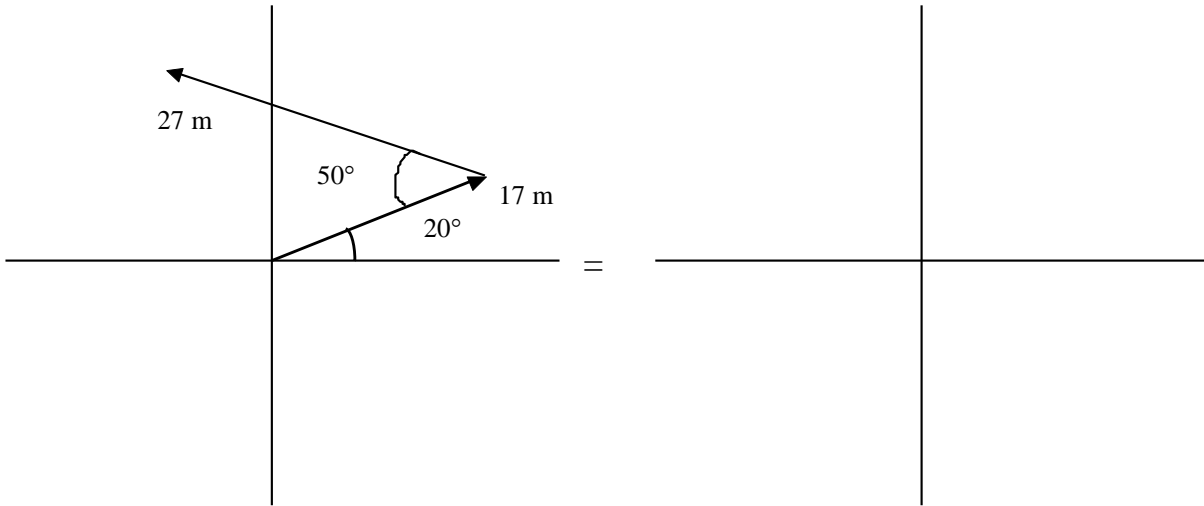
=



$x_{tot} =$ _____

$y_{tot} =$ _____

Add the following vectors and draw the resultant.



For each of the following questions, draw a picture representing what is happening and then answer the question. Be sure that your picture and your answer show the same thing.

1. You travel 25 meters east and then travel 48 meters south. What is your total displacement?
2. During his first golf tournament (at age 2), Tiger Woods actually had to four-putt one of the holes (meaning he had to putt the ball four times before it went in!). His putts were as follows: 10 meters southwest, 3 meters north, 4 meters southeast, and 0.5 meters west. How far was the hole from his original putting position? In what direction?
3. The designated course for a 6 kilometer road race has the runners going 4.5 km west and then 1.5 km north, where the finish line is located. A less-than-honest contestant in the race runs 2.5 km west and then decides to head straight toward the finish line. What distance does this wanna-be actually cover during his race?