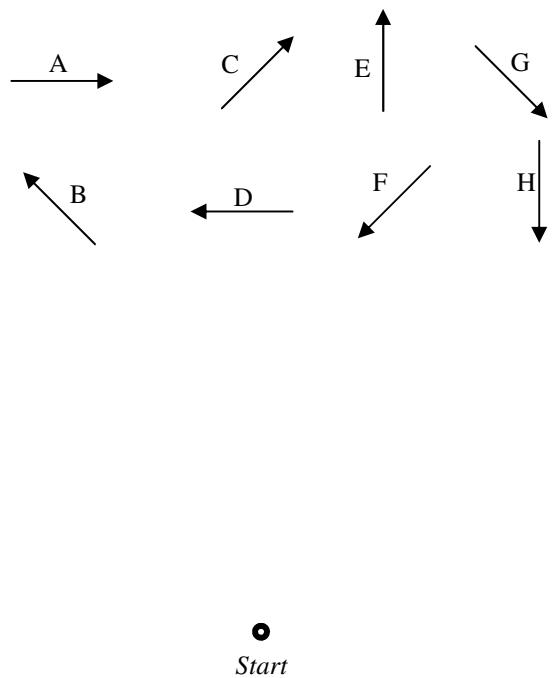
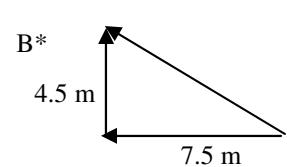
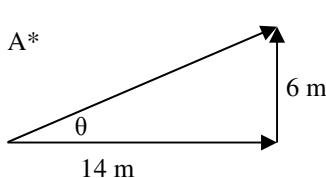
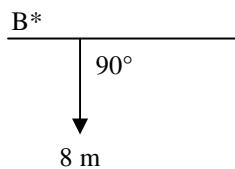
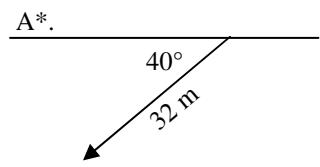


2010-11 PreAP Two Dimensions 2

1. Being sure to use correct directions (not just angles).
Find the x and y components for the following vectors.



2. Given the following x and y components, calculate the magnitude (hypotenuse) and direction of the vector. (*BIG TANGENT HINT: remember to figure out what quadrant your arrow should be in. Add 180° if necessary.*)

3. Use the arrows at the left to answer the following.

- A. ____ * Which arrow has +x and -y components?
(which is pointing in the +x and -y directions?)
- B. ____ * Which arrow has -x and +y components?
- C. ____ Which arrow has +x and no y component?
- D. ____ Which arrow/s have no x component?
- E. ____ Which arrow is the negative of A?
- F. ____ Which arrow = -B?
- G. ____ Which arrow has -x and -y components?
- H. What does A + D equal? (If you walked the direction of A and then the direction of D, what would be your total displacement?)

Still using the A-H arrows as displacement vectors (distances with directions)....

4. A. A strange person (named “Crazy”) walks the direction of A, then C, then E, then 2D (D twice). Starting at the point marked “start” draw Crazy’s path.
- B. A second person, standing at the same starting point, watches Crazy walk his crazy path, but being Lazy, walks to Crazy in a straight line. Use an arrow to show Lazy’s path. Label this arrow “R” for the resultant (the result of all of Crazy’s path).
5. * Using the same story of Crazy and Lazy above...
 - A. At the left draw Cray’s path: G + F + 2E - 2A [opposite of A, twice]. (It’s OK if the path crosses, since he’s Crazy.)
 - B. Draw Lazy’s path, labeling it “R”.

1A. $x = -24.5$ m; $y = -20.6$ m 1B. $x = 0$ m; $y = -8$ m. 2A. $H = 15.2$ m; $\theta = 23.2^\circ$;

2B. $H = 8.7$ m; $\theta = 149^\circ$ (must be in 2nd quadrant (to the left and up); tan gives -31° so add 180°);

3A) G (+x means to the right; -y means down) 3B) B

5)

