HAT 4/9/18 Name:_____

WS Law of Cosines/Sines Practice

1. Given $\overleftarrow{v} = [10,\ D40^\circ]$ and $\overleftarrow{u} = [8,\ D65^\circ]$, use the Law of Cosines to find $\overleftarrow{v} + \overleftarrow{u}$.

2. Given $\vec{c} = [5,\ H35^\circ]$ and $\overleftarrow{d} = [7,\ H150^\circ]$, use the Law of Cosines to find the magnitude and heading of the resultant $\overleftarrow{a} + \overleftarrow{b}$.

3. Given $\overleftarrow{a} = [2\ cm,\ direction\ 30^\circ]$ $\overleftarrow{b} = [3\ cm,\ heading\ 60^\circ]$

$\overleftarrow{c} = [1.5\ cm,\ direction\ 120^\circ]$ $\overleftarrow{d} = [2.6\ cm,\ heading\ 150^\circ]$

- use The Law of Cosines/Sines find the resultant.

a. $\overleftarrow{a} + \overleftarrow{c}$ b. $\overleftarrow{b} - \overleftarrow{d}$

4. An airplane travels at a speed of 500 mph with a direction of 60°. The wind is blowing at 50 mph with a direction of 135°. Use the Law of Cosines to determine how far and in what direction the plane traveled in one hour.

5. A rowboat travels at a speed of 6mph with a heading of 80°. The current is flowing at 2 mph with a heading of 210°. Use the Law of Cosines to determine the heading and how far the boat traveled in one hour.