

Warmup #7: Vector Review

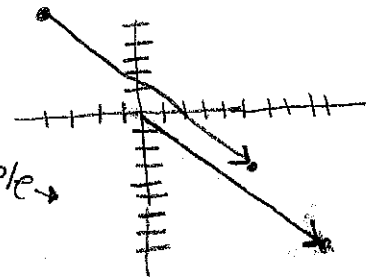
1. Given vector \overrightarrow{HA} having points $H(-4, 5)$ and $A(5, -3)$...

a.) Write in component form. $\langle 5 - (-4), -3 - 5 \rangle = \boxed{\langle 9, -8 \rangle}$

b.) Write as a sum of unit vectors.

$$\boxed{9i - 8j}$$

c.) Sketch the vector in standard position. *purple*



d.) Find the magnitude. (Simplified radical.)

$$\sqrt{9^2 + (-8)^2} = \sqrt{81 + 64} = \boxed{\sqrt{145}}$$

e.) Find the direction. (Nearest hundredth.)

$$\theta = \tan^{-1}\left(\frac{-8}{9}\right)$$
$$\theta = -41.63^\circ \quad \begin{array}{l} \rightarrow 360 \\ -41.63 \\ \boxed{318.37^\circ} \end{array}$$