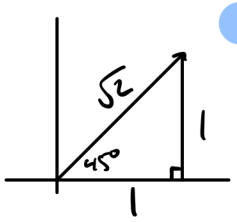
V3 - Polar to Component (Special Right Triangles)

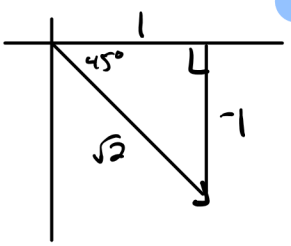
Given a vector in polar form, find the vector's component form.

1. $\bar{v} = (\sqrt{2}, 45°)$



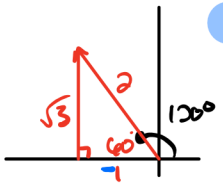
$\bar{v} = \langle 1, 1 \rangle$

2. $\bar{b} = (\sqrt{2}, 315°)$



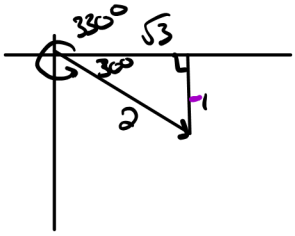
$\bar{b} = \langle 1, -1 \rangle$

3. $\bar{u} = (2, 120°)$



$\bar{u} = \langle -1, \sqrt{3} \rangle$

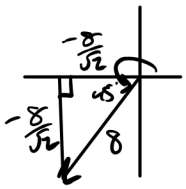
4. $\bar{c} = (2, 330°)$



$\bar{c} = \langle \sqrt{3}, -1 \rangle$

5. $\bar{w} = (8, 225°)$

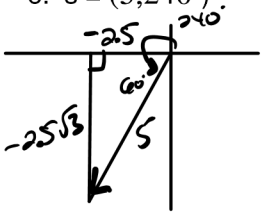
$\bar{w} = \left\langle \frac{-8}{\sqrt{2}}, \frac{-8}{\sqrt{2}} \right\rangle$



$\bar{w} = \langle -4\sqrt{2}, -4\sqrt{2} \rangle$

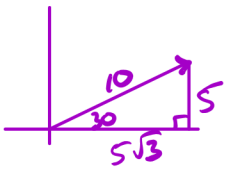
$\frac{-8}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{-8\sqrt{2}}{2} = -4\sqrt{2}$

6. $\bar{s} = (5, 240°)$



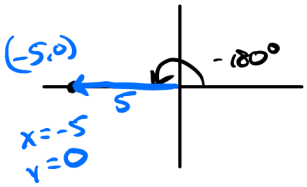
$\bar{s} = \langle -2.5, -2.5\sqrt{3} \rangle$

7. $\bar{w} = (10, 30°)$



$\bar{w} = \langle 5\sqrt{3}, 5 \rangle$

8. $\bar{s} = (5, 180°)$



$\bar{s} = \langle -5, 0 \rangle$