1A. Vectors
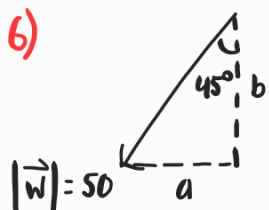
6)

$|\vec{w}| = 50$

$a = 50\sin(270° + 45°) = -35.36$

$b = -50\cos(270° + 45°) = -35.36$

$\vec{w} = \langle -35.36, -35.36 \rangle$

$\vec{v} + \vec{w} = \langle 0, 200 \rangle \Rightarrow \boxed{\vec{v} = \langle 35.36, 235.36 \rangle}$

7a)

$A \cdot A' = 0 \Rightarrow \boxed{A' = \langle -b, a \rangle}$

7b)

$A \cdot A'' = 0 \Rightarrow \boxed{A'' = \langle b, -a \rangle}$

9)

redundant proof