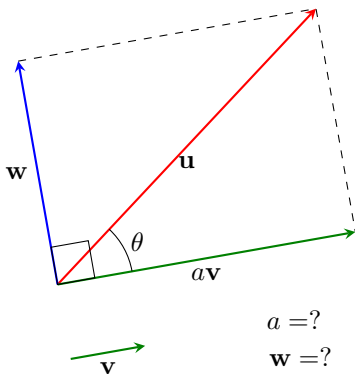


$$|a\mathbf{v}| = |\mathbf{u}| \cos \theta$$

$$a\mathbf{v} = |\mathbf{u}| \cos \theta \hat{\mathbf{v}}$$

$$\mathbf{w} = |\mathbf{u}| \sin \theta \hat{\mathbf{w}}$$



$$\mathbf{u} \cdot \mathbf{v} = |\mathbf{u}| |\mathbf{v}| \cos \theta$$

$$|\mathbf{u} \times \mathbf{v}| = |\mathbf{u}| |\mathbf{v}| \sin \theta$$