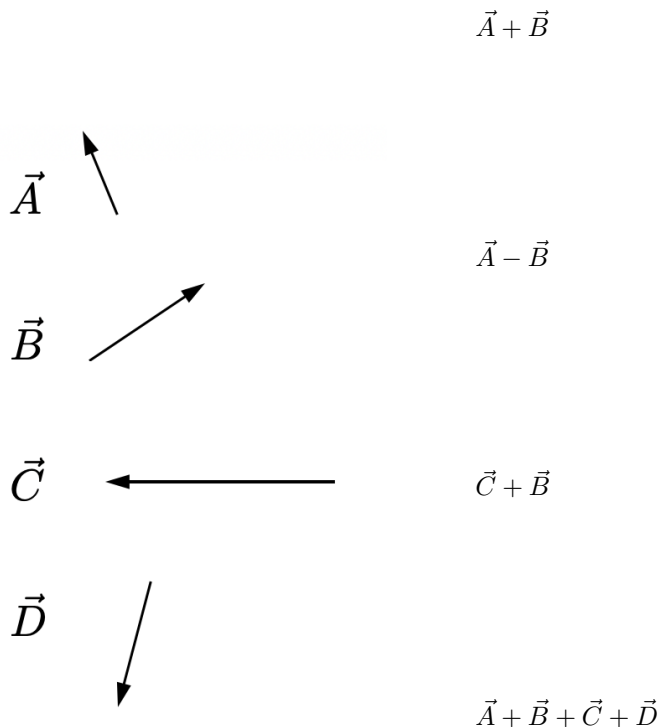


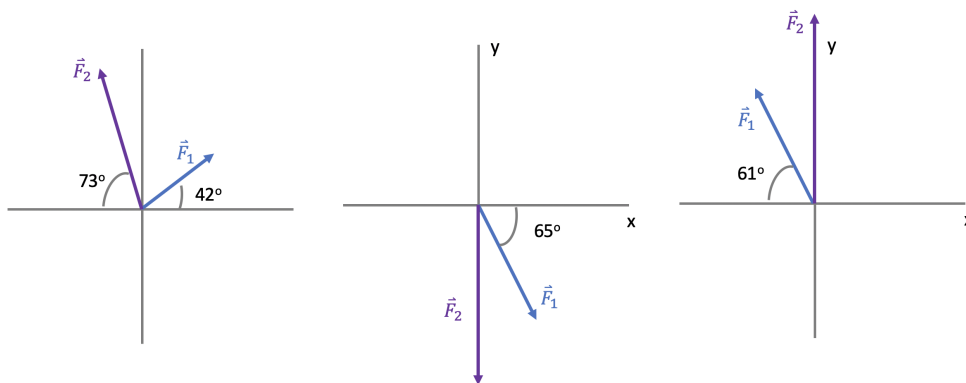
Name _____



1. A velocity vector \vec{v}_1 has an x component of $+5$ m/s and a y component of -3 m/s. Another velocity vector \vec{v}_2 has an x component of -2 m/s and a y component of $+2$ m/s. Find the the x and y components of $\vec{v}_1 + \vec{v}_2$. Check your answer by making a sketch and compare with the head to tail method.

Vector	x component	y component
\vec{v}_1		
\vec{v}_2		
$\vec{v}_1 + \vec{v}_2$		

What is the magnitude and direction of $\vec{v}_1 + \vec{v}_2$?



2. Draw $\vec{F}_1 + \vec{F}_2$:

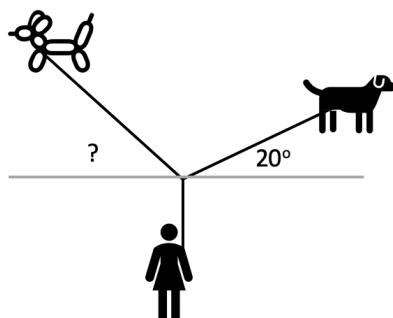
3. Two forces act on an object, \vec{F}_1 and \vec{F}_2 . \vec{F}_1 has a magnitude of 3N and points in the direction 25° above the +x axis. \vec{F}_2 has a magnitude of 6N and points purely in the - x direction. Find the magnitude and direction of $\vec{F}_1 + \vec{F}_2$.

Vector	x component	y component
\vec{F}_1		
\vec{F}_2		
$\vec{F}_1 + \vec{F}_2$		

4. A vector \vec{v} has a magnitude of +2m/s and makes an angle of 30° with respect to the horizontal. A vector \vec{a} has a magnitude of 9.8m/s^2 and points vertically downward. What is the magnitude of $\vec{v} + \vec{a}$?

Vector	x component	y component
\vec{v}		
\vec{a}		
$\vec{v} + \vec{a}$		

5. Roxie and Tad pull on a leash that I am holding such that we are at a standstill, i.e. The net force connecting the three sections of leash is zero. If Roxie pulls with a force of 100N at the angle shown and I am pulling with a force of 85N, with what force and direction is Tad pulling on the leash?



Vector	x component	y component
\vec{F}_{Roxie}		
\vec{F}_{Tad}		
\vec{F}_{Me}		
$\vec{F}_{Roxie} + \vec{F}_{Tad} + \vec{F}_{Me}$		