

Vectors in 2D

Be patient -- you'll get to 3D...

Taylor, Graham, and Connor are flying out of the Kamloops airport. The wind is a constant $200 \frac{\text{km}}{\text{hr}}$ east.

They all get on the same type of plane and it flies at $400 \frac{\text{km}}{\text{hr}}$.

Taylor flies East. Graham Flies West. Connor Flies North West.

How long does their trip take?



How long does their trip back take?

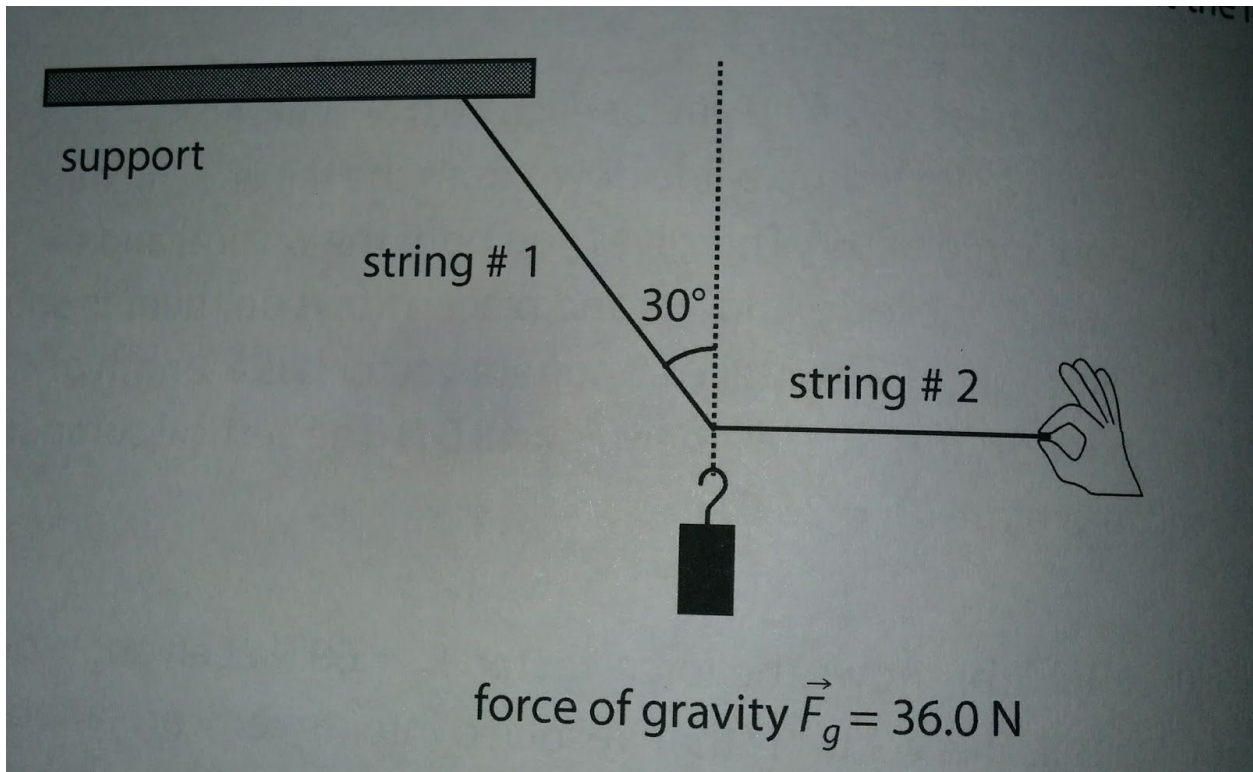
This worked out well as we had East, West, and $\frac{\pi}{4}$. We could have any θ though. In general, I would always choose 'vector decomposition'.

Compare how this girl pulls the suitcase. If she can exert a force of 120N and the surface is frictionless. How much of that force is translated into horizontal movement at an angle of:

$\frac{\pi}{2}, \frac{\pi}{3}, \frac{\pi}{4}, \frac{\pi}{6}, 2\pi$.

(x,y components)





What is the Tension in each string?

Look at the boat example on page 18. I guarantee a boat or an airplane problem (velocity in a moving fluid) on the test.

HW: 3,4,6,7,9