


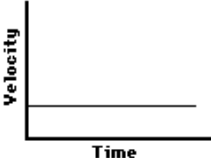

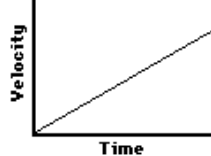


<b>Description of Motion</b>	<b>Net Force: Yes or No?</b>
<p>..... </p>	<p>See Answer</p>
<p>..... </p>	<p>See Answer</p>
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# Force Components

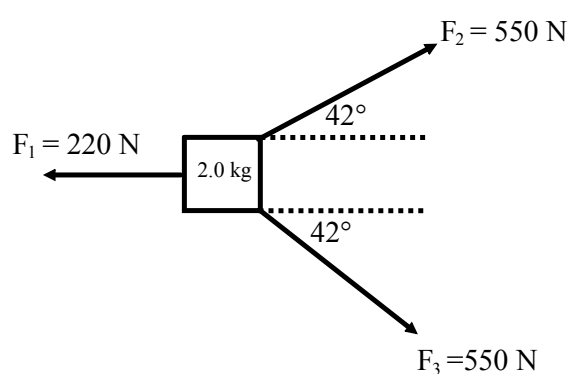
Thus far, forces have co-operated by being either **co-linear** (same line) or **perpendicular** (right angles).

To find  $F_{net}$  when forces are at some angle, we need to turn them into "x" and "y" components using trig.

This is called "resolving the force into components"

Ex: A force of 500 N is directed at an angle of  $40^\circ$  below the horizontal.  
Determine the components.

Ex 1: Calculate the net force acting on the mass below.



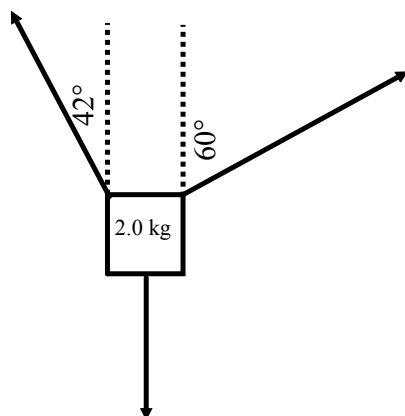
- \* we cannot add forces which are at **angles**
- \* we must resolve these forces into **components**
- \* use a **table** to keep your work organized

	x	y
$F_1$		
$F_2$		
$F_3$		
$F_{\text{net}}$		

## Example 2

$F_2 = 550 \text{ N}$

$F_3 = 675 \text{ N}$



$F_1 = 220 \text{ N}$

	x	y
$F_1$		
$F_2$		
$F_3$		
$F_{\text{net}}$		

Jerome and Michael, linebackers for South's varsity football team, delivered a big hit to the halfback in last weekend's game. Striking the halfback simultaneously from different directions with the following forces. What was the net force?

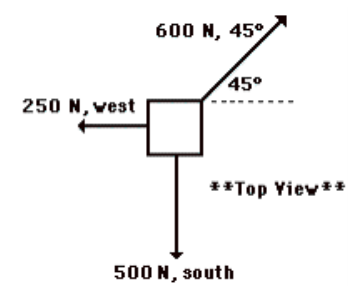
$$F_{\text{Jerome}} = 1230 \text{ N at } 53^\circ \text{ N of W}$$

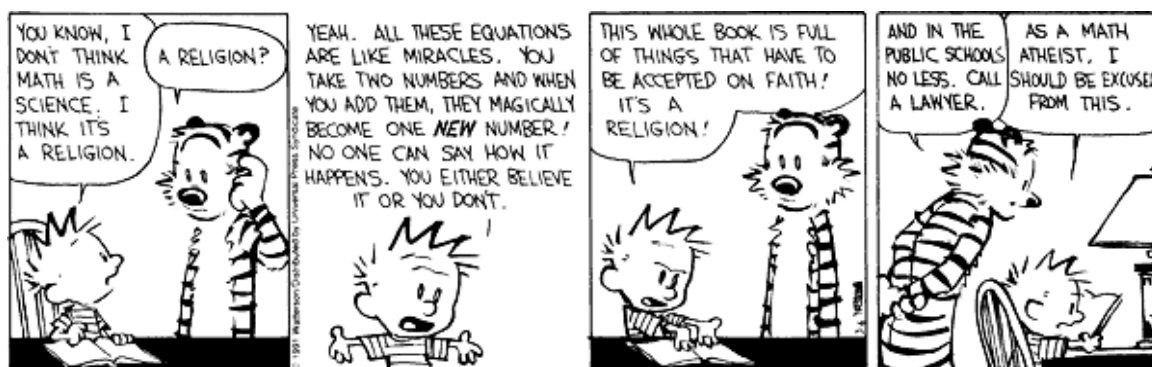
$$F_{\text{Michael}} = 1450 \text{ at } 17^\circ \text{ S of W}$$

A pack of three Arctic wolves are fighting over the carcass of a dead polar bear.

A top view of the magnitude and direction of the three forces is shown in the diagram to the right.

Determine the resultant or net force acting upon the carcass.





Hmwk: Worksheet