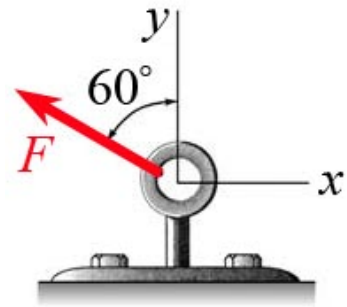


MEEG 2003 [Quiz #2.m04m.083](#)

- ② Describe (a) the *parallelogram law*, (b) the *triangle rule*.
- ⑦ The 500-N force \mathbf{F} as shown is to be resolved into two forces \mathbf{A} and \mathbf{B} where $A = 300\text{ N}$, $B = 700\text{ N}$, and $0 < \theta_B < 150^\circ$. Using the *parallelogram law*, determine the directional angles θ_A and θ_B .
- ① From which *two teachers* have you been advised to learn your basics in mechanics?



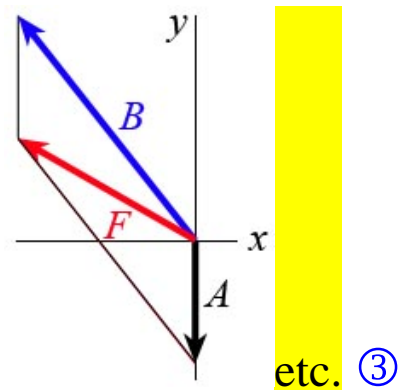
- (a) The *parallelogram law* states that the sum of two vectors is a single vector, called their *resultant*, given by the directed diagonal of a parallelogram if the two sides directed away from the tail of this diagonal are equal to these two vectors. (b) The *triangle rule* states that when two vectors are drawn to scale and in tip-to-tail fashion, the vector connecting, and directed from, the tail of the first vector to the tip of the second vector gives the resultant of those two vectors. ②

2. $F = 500\text{ N}$, $A = 300\text{ N}$, $B = 700\text{ N}$

$$\theta_F = 90^\circ + 60^\circ = 150^\circ$$

$$\theta_A = 270^\circ \quad \text{②} \quad \theta_B = 128.2^\circ \quad \text{②}$$

- I have been advised to learn my basics in mechanics from the *Speaking Teacher* in the class and the *Silent Teacher* on the pages of the books and the Internet. ①



etc. ③