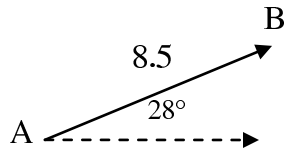
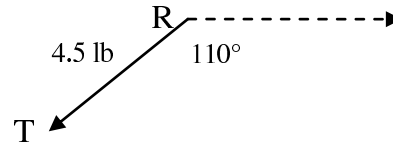


## II. Vector Basics

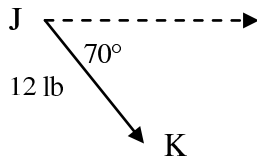
1. What is the magnitude and direction of  $\overrightarrow{AB}$ ?



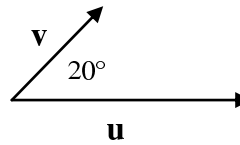
2. What is the magnitude and direction of  $\overrightarrow{RT}$ ?



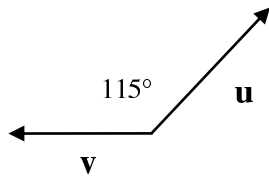
3. What is the magnitude and direction of  $\overrightarrow{JK}$ ?



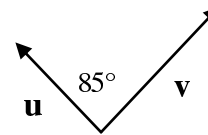
4. Sketch the resultant vector  $\mathbf{u} + \mathbf{v}$ .



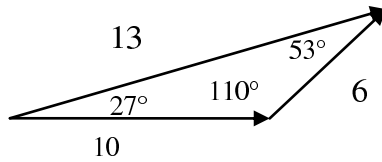
5. Sketch the resultant vector  $\mathbf{u} + \mathbf{v}$ .



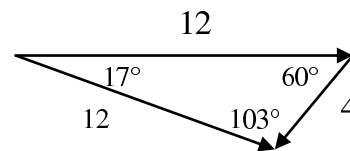
6. Sketch the resultant vector  $\mathbf{u} + \mathbf{v}$ .



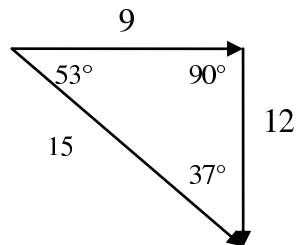
7. What is the magnitude and direction of the resultant in the sketch below?



8. What is the magnitude and direction of the resultant in the sketch below?

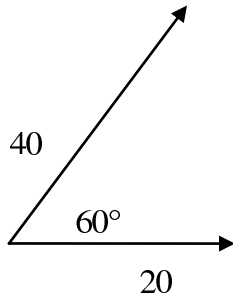


9. What is the magnitude and direction of the resultant in the sketch below?

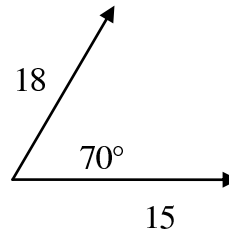


### III. Addition of Vectors

10. Vector  $\mathbf{u}$  has a magnitude of 20 and a direction of  $0^\circ$ . Vector  $\mathbf{v}$  has a magnitude of 40 and a direction of  $60^\circ$ . Find the magnitude and direction of the resultant to the nearest whole number.



11. Vector  $\mathbf{u}$  has a magnitude of 15 and a direction of  $0^\circ$ . Vector  $\mathbf{v}$  has a magnitude of 18 and a direction of  $70^\circ$ . Find the magnitude and direction of the resultant to the nearest whole number.



12. Vector  $\mathbf{u}$  has a magnitude of 24 and a direction of  $0^\circ$ . Vector  $\mathbf{v}$  has a magnitude of 40 and a direction of  $115^\circ$ . Find the magnitude and direction of the resultant to the nearest whole number.

(continued on next page)