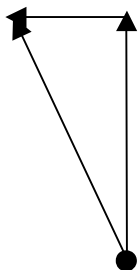


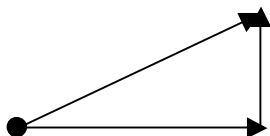
1. Find the westward component of a resultant vector 85.42 unit, 23° W of N.



$$\Theta = 23^\circ \quad c = \text{hyp} = 85.42 \text{ units} \quad a = \text{opp} = \text{west} = ?$$

$$\sin 23^\circ = \frac{\text{west}}{85.42} = \boxed{33 \text{ units W}}$$

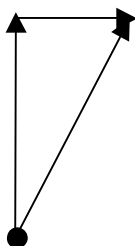
2. What is the east component of a vector 12.3 m, 10.0° N of E?



$$\Theta = 10.0^\circ \quad c = \text{hyp} = 12.3 \text{ m} \quad b = \text{adj} = \text{east} = ?$$

$$\cos 10.0^\circ = \frac{\text{east}}{12.3} = \boxed{12.1 \text{ m E}}$$

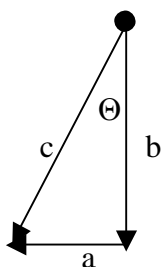
3. Calculate the N component of a resultant 32.5 m/s, 35.0° E of N.



$$\Theta = 35.0^\circ \quad c = \text{hyp} = 32.5 \frac{\text{m}}{\text{s}} \quad b = \text{adj} = \text{north} = ?$$

$$\cos 35.0^\circ = \frac{\text{north}}{32.5} = \boxed{26.6 \frac{\text{m}}{\text{s}} \text{ N}}$$

4. You move 26 m at an angle of 40.0° W of S. (a) How far south of your starting point are you (in other words, what is the S component)? (b) How far west are you?



$$\Theta = 40.0^\circ \quad c = \text{hyp} = 26 \text{ m} \quad b = \text{adj} = \text{south}; \quad a = \text{opp} = \text{west}$$

$$a) \cos 40.0^\circ = \frac{\text{south}}{26} = \boxed{20. \text{ m S}}$$

$$b) \sin 40.0^\circ = \frac{\text{west}}{26} = \boxed{17. \text{ m W}}$$