

28. Reference to Figure 3-18 (and the accompanying material in that section) is helpful. If we convert  $\vec{B}$  to the magnitude-angle notation (as  $\vec{A}$  already is) we have  $\vec{B} = (14.4 \angle 33.7^\circ)$  (appropriate notation especially if we are using a vector capable calculator in polar mode). Where the length unit is not displayed in the solution, the unit meter should be understood. In the magnitude-angle notation, rotating the axis by  $+20^\circ$  amounts to subtracting that angle from the angles previously specified. Thus,  $\vec{A} = (12.0 \angle 40.0^\circ)'$  and  $\vec{B} = (14.4 \angle 13.7^\circ)'$ , where the 'prime' notation indicates that the description is in terms of the new coordinates. Converting these results to  $(x, y)$  representations, we obtain

$$\begin{aligned}\vec{A} &= 9.19\hat{i}' + 7.71\hat{j}' \\ \vec{B} &= 14.0\hat{i}' + 3.41\hat{j}'\end{aligned}$$

with the unit meter understood, as already mentioned.