

A Calculator may be used on this section.

7. Find the angle between  $\mathbf{u}$  and  $\mathbf{v}$  if  $\mathbf{u} = -2\mathbf{i} + 3\mathbf{j}$  and  $\mathbf{v} = -5\mathbf{i} - \mathbf{j}$ .

$$\cos \theta = \frac{10 + -3}{\sqrt{13} \sqrt{26}}$$



$$\cos \theta = \frac{7}{\sqrt{13} \sqrt{26}}$$

$$\theta = 67.620$$

7. 67.620°

8. Find the components of the vector  $\mathbf{v}$  with direction angle  $242^\circ$  and length 5.



$$\vec{v} = 5 \langle \cos 242, \sin 242 \rangle$$

$$\vec{v} = \langle -2.347, -4.415 \rangle$$

8.  $\langle -2.347, -4.415 \rangle$