1) You're given that: a=-i+j and b=j
2) $a \cdot b$ is the dot product between the two vectors.
3) Rewrite a using component form: a=<-1,1>
4) Rewrite b using component form: b=<0,1>
5) Apply the dot product definition: $a \cdot b = <-1,1><0,1> = (-1)(0)+(1)(1) = 0+1 = 1$
6) To find the angle, proceed as shown below.

6a) Find the magnitude of a. That's $|a| = \sqrt{(-1)^2 + (1)^2} = \sqrt{1+1} = \sqrt{2}$

6b) Find the magnitude of b. That's $|b| = \sqrt{1^2} = 1$

7) Plug the values above into the relationship below for the cosine of the angle between them.

$$\cos(y) = \frac{a \cdot b}{|a| \cdot |b|} = \frac{1}{\sqrt{2} \cdot 1} = \frac{1}{\sqrt{2}}$$

8) Apply the inverse cosine on both sides to get the angle. You can rewrite $\frac{1}{\sqrt{2}}$ as $\frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

$$y = \cos^{-1}\left(\frac{1}{\sqrt{2}}\right) = \cos\left(\frac{\sqrt{2}}{2}\right) = \frac{\pi}{4}$$

9) To summarize, you can write $a \cdot b = 1$ and the angle between the vectors is $\frac{\pi}{4}$