

## Jigsaw 1E

### Keeler Section 2.5. Frequency, oscillations and rotations

1. Sketch a graph of the x and y components of a rotating vector as a function of time for each of the given starting phases. Assume the phases are relative to the positive x-axis. In each case, comment on the form of your graphs, noting particularly whether they are simple sine or cosine functions.
  - a.  $0^\circ$
  
  
  
  
  
  
  
  
  
  
  - b.  $5\pi/2$  radians
  
  
  
  
  
  
  
  
  
  
  - c.  $135^\circ$
  
  
  
  
  
  
  
  
  
  
  - d.  $7\pi/4$  radians
  
  
  
  
  
  
  
  
  
  
  - e.  $-45^\circ$
  
  
  
  
  
  
  
  
  
  
2. Two peaks are separated by 12 Hz. What is this in  $\text{rad s}^{-1}$ ?