Practice worksheet | Vector calculus

Sine/cosine parameterisations and circular motion

Name: _____ Date: _____

6 questions | 12 marks

1. Find the Cartesian locus of $(3\cos t, 2\sin t)$. [2 marks]

2. Find speed and acceleration magnitude for $(5\cos 2t, 5\sin 2t)$. [2 marks]

3. At 0, describe direction for $(2\cos t, -2\sin t)$. [2 marks]

4. Find centre and radius of $(1 + 4\cos t,\ -2 + 4\sin t)$. [2 marks]

5. Find speed for $(2\cos t, 2\sin t, t)$. [2 marks]

6. Compare speeds at 0 and $\pi/2$ for $(4\cos t, 2\sin t)$. [2 marks]