Practice worksheet | Vector calculus

Velocity, acceleration and speed

Name: _____ Date: _____

6 questions | 12 marks

1. Find speed for $(3t, 4t)$ m. [2 marks]

2. Find velocity and acceleration at 2 for (t^2, t^3). [2 marks]

3. When is $(t^2 - 2t, t^3 - 3t)$ momentarily at rest? [2 marks]

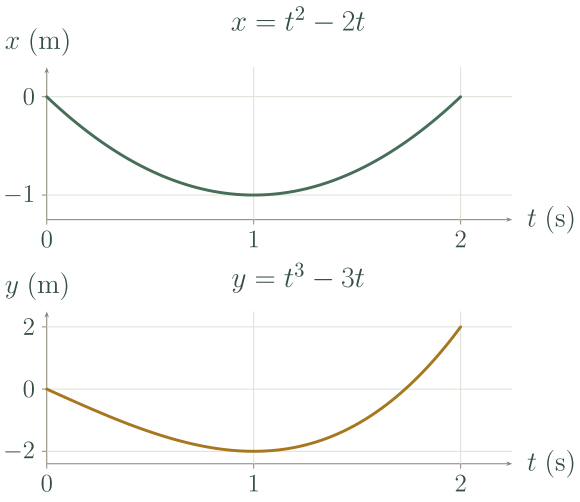


Illustration only: $0 \leq t \leq 2$.

4. Given velocity $(2, 1)$ and acceleration $(-1, 0)$, find the speed rate. [2 marks]

5. Find speed for $(\cos 2t, \sin 2t, 3t)$. [2 marks]

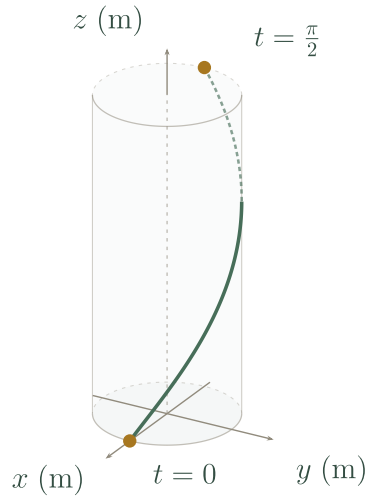


Illustration only: $0 \le t \le \frac{\pi}{2}$.

6. Give an example of nonzero constant speed with zero acceleration. [2 marks]