Practice worksheet | Integration

Displacement and total distance

Name: _____ Date: _____

6 questions | 18 marks

1. $v(t) = 3$ m/s on $[0, 5]$. Find displacement and distance. [3 marks]

2. $v(t) = -2$ m/s on $[0, 4]$. Find displacement and distance. [3 marks]

3. $v(t) = t - 1$ m/s on $[0, 3]$. Find displacement and distance. [3 marks]

4. $v(t) = (t-2)^2$ m/s on $[0, 4]$. Does it change direction at 2? Find distance. [3 marks]

5. $v(t) = 2t$ m/s and initial position is 5 m. Find position at 3 s. [3 marks]

6. $v(t) = \cos t$ m/s for $0 \leq t \leq \pi$. Find distance. [3 marks]