Dot product and projection

Name: _____ Date: _____

6 questions | 12 marks

1. Calculate $(2, -1, 3) \cdot (4, 2, -2)$. [2 marks]

2. Find the angle between $(1, 0, 0)$ and $(1, 1, 1)$, to one decimal degree. [2 marks]

3. Project $(3, 4, 0)$ along $(1, 0, 0)$. [2 marks]

4. Find the component of $(2, -1, 2)$ perpendicular to $(1, 0, 0)$. [2 marks]

5. Find k for perpendicular vectors $(1, k, 2)$ and $(3, 2, -1)$. [2 marks]

6. Force $(6, 2, -1)$ N acts through displacement $(3, -1, 2)$ m. Find the work. [2 marks]