

Quiz 2

This is a two-stage quiz. During the first stage, use your knowledge & calculator. You have 15 min. In the second stage, you are now welcome to use your books, notes, and students in the class to retake the same quiz. You have the remainder of the quiz time to write one solution (with everyones name on it!!!) to be turned in for the group.

1. Let $\vec{v} = \vec{i} - 4\vec{j} + \vec{k}$ and $\vec{w} = \langle -3, 1, 5 \rangle$.

(a) [2] Determine if \vec{v} and \vec{w} are parallel, perpendicular or neither.

(b) [2] Write down an equation of a line that passes through $P(1, 2, -1)$ and is parallel to \vec{w} .

(c) [2] Write down an equation of a plane that passes through $P(1, 2, -1)$ and is perpendicular to \vec{w} .

2. A bicycle pedal is pushed by a foot with 60 Newton force as shown. The shaft of the pedal is .24 m long.

(a) [1] Identify the direction of the torque.

(b) [3] Find the magnitude of the torque.

