

Quiz 2**Instructions:**

1. Answer both questions below. Both have equal weight.
2. Express your answer with the appropriate units and significant digits
3. Show your work for full credit.

1. An object experiences no acceleration. Which of the following *cannot* be true for the object?

- A single force acts on the object.
- No forces act on the object.
- Forces act on the object, but the forces cancel.
- The object is at rest.

2. A 3.00 kg object is moving in a plane, with its x and y coordinates in meters given by $x = 5t^2 - 1$ and $y = 3t^3 + 2$, where t is in seconds. What is the magnitude of the net force acting on this object at $t = 2.00$ s?

- 112 N
- 30.0 N
- 108 N
- 37 N