QUIZ 3 Blue, PHY 191 B, Friday, Sep 16, 2016 (10 pts)

Question 1: A rocket is launched straight up at a constant acceleration of 7 m/s^2. 8 seconds after liftoff, a bolt falls off the side of the rocket. How much time *later* (i.e., after detaching) does the bolt hit the ground? (Pick the closest answer)

a) 6 s b) 10 s c) 15 s d) 18 s e) 20 s

ANSWER: _____ (2 pts)

REASONING: (4 pts)

Question 2: Let $\vec{A} = 3\hat{i} + 4\hat{j}$ and $\vec{B} = 2\hat{i} - 3\hat{j}$ and $\vec{F} = 3\vec{A} - 2\vec{B}$.

a) Write $\vec{F}$ in component form. (1 pt)

b) What is the magnitude of $\vec{F}$? (1pt)

c) What is the direction of $\vec{F}$ (i.e., angle made w/ *x*-axis)? (1pt)