

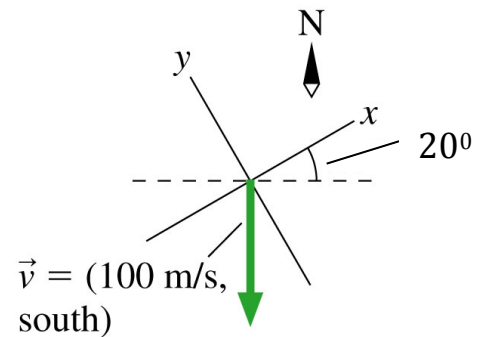
QUIZ 4 Green, PHY 191 B, Friday, Sep 23, 2016 (15 pts)

[see both sides of sheet!]

Question 1: The y-component of the velocity vector shown in the figure is

- a) -94 m/s
- b) -77 m/s
- c) +77 m/s
- d) +94 m/s
- e) -64 m/s

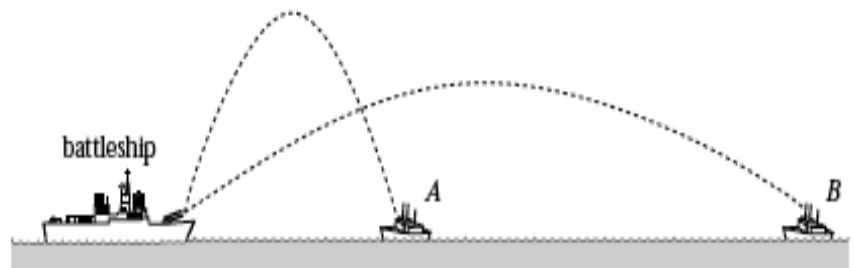
Answer: _____ (1 pt)
Show work: _____ (4pts)



Question 2: A battleship simultaneously fires two shells at enemy ships *with different launch velocities*. If the shells follow the parabolic trajectories shown, which ship gets hit later?

- a) A
- b) both at the same time
- c) B
- d) can't say, need more info

Answer: _____ (1 pt)
Show reasoning: _____ (4pts)



Question 3: In a contest at the county fair, a spring-loaded plunger launches a ball at 3.0 m/s from one corner of a smooth, flat board at an angle 60° as shown.

The board is tilted at an angle θ . To win, you must make the ball hit a small target at the adjacent corner, 2 m away. At what angle θ should you tilt the board?

[Note! Diagram not to scale!]

- a) 9.5°
- b) 13°
- c) 16.5°
- d) 20°
- e) 23.5°

Answer: _____ (1 pt)

Show work: _____ (4pts)

