Høsten 2016

FYS100 Fysikk
Problems week 37

Have a go at these. And for each, make a little sketch to illustrate the solution.

First some problems from the book:

- 4.33, 4.38, 4.43, 4.51, 4.54

Additional Problem 1 (OblII, 2013)

A submarine targets a battleship at a distance $d = 20.0$ km, in the direction $\theta_1 = 15.0°$ East of North. The battleship is travelling at $v_1 = 30.0$ km/h in a direction $\theta_2 = 40.0°$ degrees East of North. The torpedoes of the submarine can move at a speed of $v_2 = 100$ km/h.

a) In which direction relative to North should the submarine fire its torpedo to hit the battleship?

b) How long will it take the torpedo to reach the target?