

Names:

Physics 141, Quiz 6: Group

This is the group portion of your quiz. You will turn in one quiz for your entire group of 3. Answer the questions in complete sentences (where writing is called for) You will have 15-20 minutes to do this portion.

1. Weirstrass has gotten quite concerned about global warming and is especially worried about sea-level rise. She has decided to do some research and has learned that the total volume of the Arctic ice (which is basically one gigantic iceberg floating on the Arctic ocean) is about $20,000 \text{ km}^3$. She also has learned that the oceans cover about $3.6 \times 10^8 \text{ km}^2$. If the Arctic ice melts and the oceans are an average of about 5 km deep, how much will sea-level rise?(10 pts)

Principle(s):

2. Cantor is swimming out in a lake. We've been explaining pressure to him lately and now he's worried about swimming under a boat because he'll have to support the weight of the boat and it might crush him. Euclid tells him it's OK. How should she explain why the pressure under the boat is no higher than anywhere else? (**10 pts**)

Principle(s):