

Physics

Question 1

An earthquake emits both S-waves and P-waves which travel at different speeds through the Earth. A P-wave travels at 9,000 m/s and an S-wave travels at 5,000m/s. If P-waves are received at a seismic station 1.00 minute before an S-wave arrives, how far away is the earthquake center?

1. 1,200 km
2. 675 km
3. 88.9 km
4. 240 km

Question 2

All people come very close to being able to float in water. What therefore is the volume (in cubic meters) of a 50-kg woman?

1. 0.035
2. 0.050
3. 0.007
4. 0.070

Question 3

A horizontal meter stick supported at the 50-cm mark has a mass of 0.50 kg hanging from it at the 20-cm mark and a 0.30 kg mass hanging from it at the 60-cm mark. Determine the position on the meter stick at which one would hang a third mass of 0.60 kg to keep the meter stick balanced.

1. 65 cm
2. 70 cm
3. 74 cm
4. 86 cm

Question 4

Two stars of masses M and $6M$ are separated by a distance " D ". Determine the distance (measured from M) to a point at which the net gravitational force on a third mass would be zero.

1. 0.41 D
2. 0.37 D
3. 0.33 D
4. 0.29 D

Question 5

What is the technique used to find the age of prehistoric fossils?

1. Paleontology
2. Radio Carbon dating
3. Radio Isotope dating
4. None of these