

Question 1: Light year is a unit of:

- acceleration
- velocity
- time
- distance

Question 2: The center of mass of a uniform disk of radius  $R$  is located:

- at the center
- a distance  $R/3$  from the center
- a distance  $R/2$  from the center
- on the rim

Question 3: Which of the following statement is TRUE of sound intensity and decibel levels? Identify all that apply.

- The intensity of sound which corresponds to the threshold of pain is one trillion times more intense than the sound which corresponds to the threshold of hearing.
- Two sounds which have a ratio of decible ratings equal to 2.0. This means that the second sound is twice as intense as the first sound.
- Sound A is 20 times more intense than the sound B. So if sound B is rated at 30 dB, then sound A is rated at 50 dB.
- A machine produces a sound which is rated at 60 dB. If two of the machines were used at the same time, the decibel rating would be 120 dB.

Question 4: Following are the ways by which light can interact with matter, EXCEPT:

- Emission
- Interference
- Absorption
- Transmission

Question 5: The work done by gravity during the descent of a projectile:

- depends for its sign on the direction of the  $y$  axis
- is positive
- is negative
- is zero

Question 6: In \_\_\_\_\_ object returns to its original position if displaced slightly

- dynamic equilibrium
- stable equilibrium
- unstable equilibrium