

UNIDAD 7. EJERCICIOS RESUELTOS. APARTADO 2.

Exercise 5. Calculate the distance travelled by the sound through the air in 5 seconds.

Data: time = 5 s.

Speed of sound in the air = $v = 340 \text{ m/s}$

$$d = v \cdot t = 340 \frac{\text{m}}{\text{s}} \cdot 5 \text{ s} = 1700 \text{ m}$$

Exercise 6. How much time does the light last from the Moon to the Earth (distance Earth-Moon = 384 000 km)

Data: distance $d = 384000 \text{ km}$.

Speed of light in vacuum = $v = 300000 \text{ km/s}$

$$t = \frac{d}{v} = \frac{384000 \text{ km}}{300000 \text{ km/s}} = 1,28 \text{ s}$$

Exercise 7. During a storm, we see the lightning and, 3 seconds later, we hear the thunder. ¿What's the distance to the storm?

Data: time = 3 s.

Speed of sound in the air = $v = 340 \text{ m/s}$

$$d = v \cdot t = 340 \frac{\text{m}}{\text{s}} \cdot 3 \text{ s} = 1020 \text{ m}$$

(The speed of light is much bigger than the speed of sound. So, we consider that the time taken by the light is negligible)