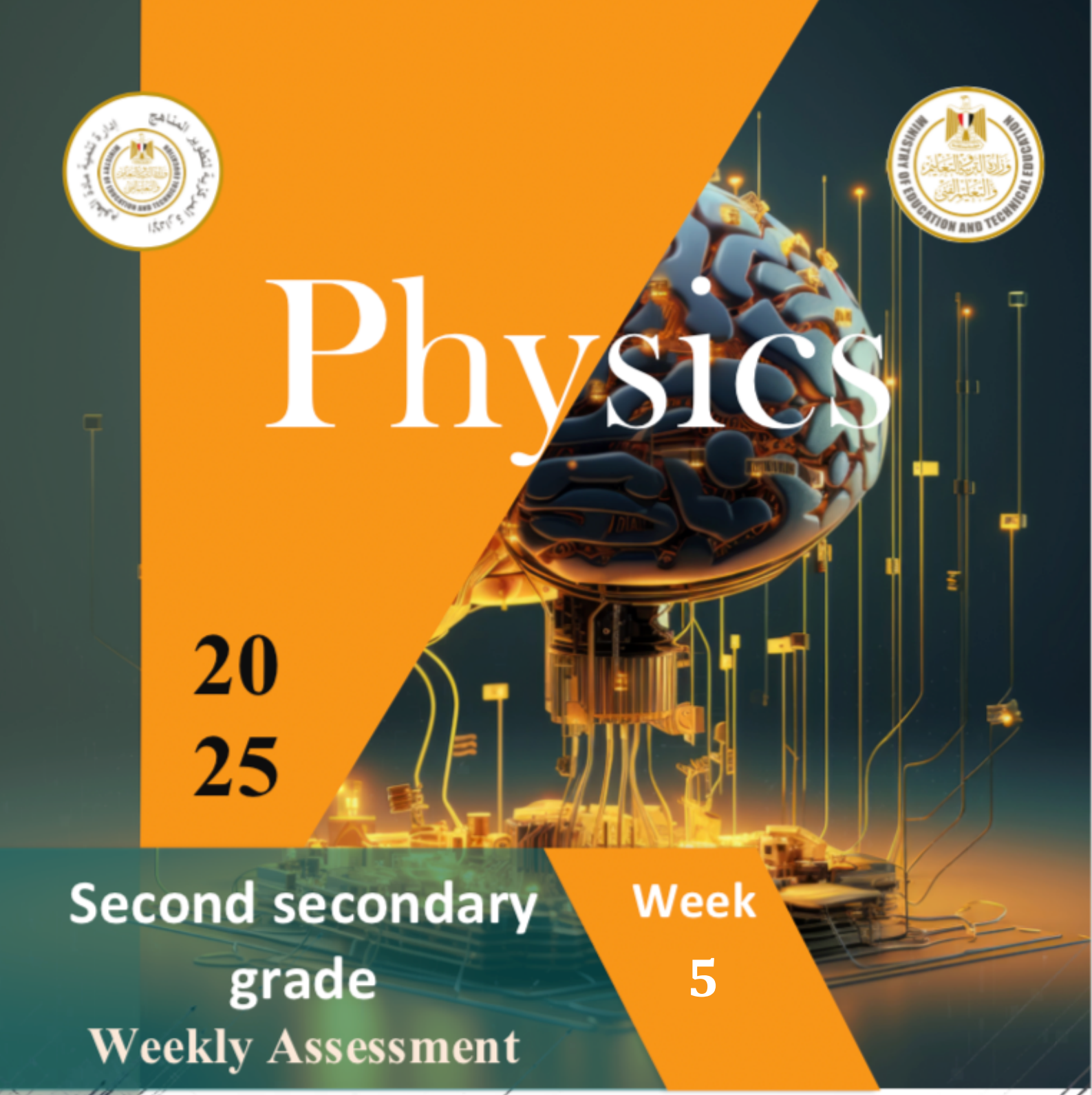
Physics



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Second secondary grade

Weekly Assessment

Week
5

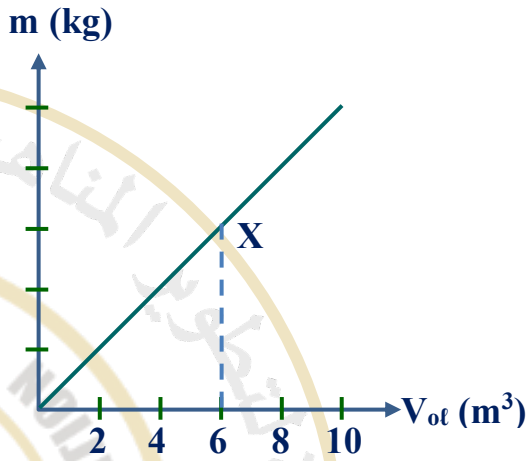
Prepare and review

Science Development Office

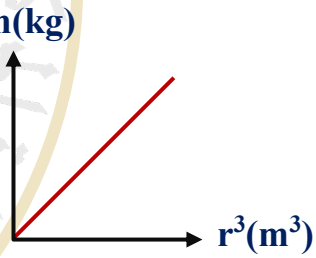
Weekly assement

1) The figure opposite represents the relationship between different masses of a substance and their volumes. At constant temperature. Calculate the mass of the substance at X.

(Knowing that the relative density of the substance = 0.5, ρ_{water} = 1000 kg/m^3)



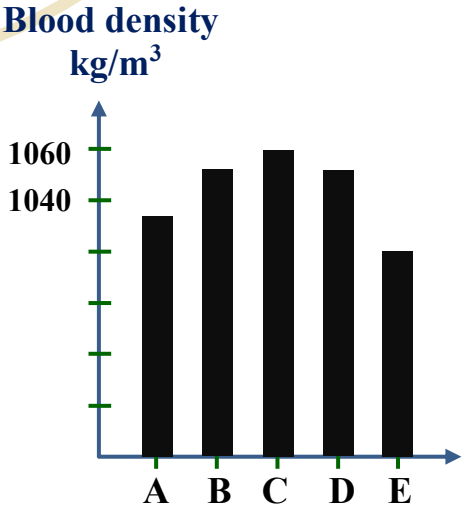
2) The graph shows the relationship between the mass (m) and the cube´s radius (r) of a number of copper spheres. What is the slope of the graph?



3) The figure shows the blood density of a number of people (A, B, C, D, E). Then

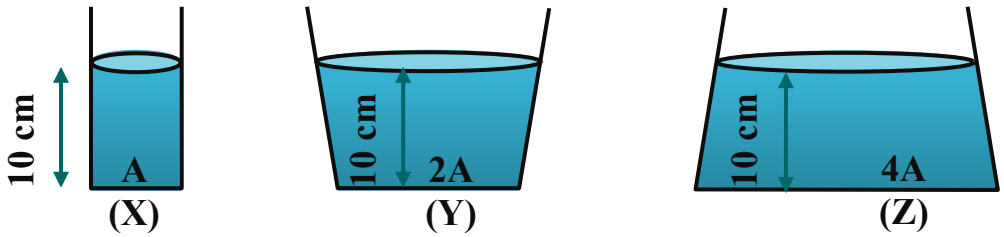
1 -The person who has less anemia is. .....

2- The person who has more anemia is ..... .



4) In the figure shown, there are three vessels filled with water.

Find the ratio of the force of the water on the base is in the order F_X: F_Y : F_Z



5) A tank with a depth of 1.5 m was filled with water at a height of 1 m. Then oil with a density of 800 kg/m^3 was added to it until the tank was completely filled. Find the pressure difference at a point above the surface of the oil and the other at the base of the tank below the surface of the water, knowing that g = 10 m/s^2

6) A submarine is designed to withstand a pressure of no more than 12 atms. Find the maximum depth it can dive to without exceeding this limit, then find the force acting on the door of its cabin at this depth if its dimensions are 70cm x 40cm, knowing that the atmospheric pressure is equivalent to 76cm.Hg.

7) A cuboid are made of metal with a density of 8 gm/cm^3 whose dimension 60 cm × 40 cm × 50 cm. It is placed so that its base touches the ground. Find the value of the pressure resulting from it.

8) Find the total pressure and the total compressive forces acting on the bottom of a tank containing salt water with a density of 1030 kg/m^3 if the cross-sectional area of the tank is 1000 cm^2 and the height of the water in it is 1 m, and the surface of the water in the tank is exposed to the atmosphere, and the acceleration of gravity is g = 10 m/s^2, and the atmospheric pressure is 1.013×10^5 N/m^2.