Answer on Question #44291 - Physics – Astronomy | Astrophysics

If distance between earth and sun is become half and orbital speed remains same, then hom many days in a year become?

Solution

We have that the year is $T_0 = 365\frac{1}{4} days$. If new distance between earth and sun $r_1 = \frac{1}{2} r_0$ is become half and orbital speed remains same $v_1 = v_0$, we get that the year become $T_1 = T_0 \frac{r_1}{v_1}\frac{v_0}{r_0} = \frac{1}{2}T_0 = 182\frac{5}{8} days$.

Answer:

$$T_1 = 182\frac{5}{8} days$$