Solved Example

1. Suppose the orbit of a satellite is exactly 35780 km above the earth's surface. Determine the tangential velocity of the satellite

2. In the previous example, how much time the satellite will take to complete one revolution around the earth?

Given : Height of the satellite above the earth's surface= 35780 km.

Velocity of the satellite=3.08 km/sec

Exercise

1. Solve the following problems.

If mass of a planet is eight times the mass of the earth and its radius is twice the radius of the earth, what will be the escape velocity for that planet?

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2. How much time a satellite in an orbit at height 35780 km above earth's surface would

take, if the mass of the earth would have been four times its original mass?

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3. If the height of a satellite completing one revolution around the earth in T seconds is h_1 meter, then what would be the height of a satellite taking $2\sqrt{2}T$ seconds for one revolution?

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