

PROBLEMS

Unless otherwise stated, take as the measure of the acceleration of gravity, with centimetres and seconds, 980 ; with feet and seconds, 32.

1. A body moves 1, 3, 5, 7 feet during the 1st, 2nd, 3rd, 4th seconds, respectively. Find the average speed.

2. Express a speed of 36 kilometres per hour in cm. per second.

✓ 3. A body falls freely for 6 seconds. Find the velocity at the end of that time, and the space passed over.

4. The velocity of a body at a certain instant is 40 cm. per sec., and its acceleration is 5 cm. per sec. per sec. What will be its velocity half-a-minute later?

5. What initial speed upwards must be given to a body that it may rise for 4 seconds?

6. The Eiffel Tower is 300 metres high, and the tower of the City Hall, Toronto, is 305 feet high. How long will a body take to fall from the top of each tower to the earth?

7. On the moon the acceleration of gravity is approximately one-sixth that on the earth. If on the moon a body were thrown vertically upwards with a velocity of 96 feet per second, how high would it rise, and how long would it take to return to its point of projection?

8. A body moving with uniform acceleration has a velocity of 10 feet per second. A minute later its velocity is 40 feet per second. What is the acceleration?