

### THEORY

1. The rate of change of the volume of a sphere is proportional to the square of its radius. Find the rate of change of the radius when the volume is increasing at the rate of  $100 \text{ cm}^3/\text{sec}$  and the radius is  $10 \text{ cm}$ .

2. A particle moves along a straight line with a constant acceleration. It covers a distance of  $100 \text{ m}$  in  $10 \text{ sec}$  and another  $100 \text{ m}$  in the next  $10 \text{ sec}$ . Find its initial velocity and acceleration.

3. A particle moves along a straight line with a constant acceleration. It covers a distance of  $100 \text{ m}$  in  $10 \text{ sec}$  and another  $100 \text{ m}$  in the next  $10 \text{ sec}$ . Find its initial velocity and acceleration.

### PROBLEMS

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### ANSWERS

1.  $10 \text{ cm/sec}$

2.  $10 \text{ m/sec}$ ,  $1 \text{ m/sec}^2$

3.  $10 \text{ m/sec}$ ,  $1 \text{ m/sec}^2$