

THEORY

1. The rate of change of the area of a square is $20 \text{ cm}^2/\text{s}$. Find the rate of change of its side length when the side length is 10 cm .

2. A particle moves along a straight line with a constant acceleration of 4 m/s^2 . Find the rate of change of its velocity when its displacement is 16 m .

3. The volume of a sphere is increasing at a rate of $3 \text{ cm}^3/\text{s}$. Find the rate of change of its radius when the radius is 2 cm .

4. A right-angled triangle has a hypotenuse of length 10 cm . One of the other two sides is increasing at a rate of 1 cm/s . Find the rate of change of the area of the triangle when the other side is 6 cm .

5. A particle moves in a circular path with a constant angular velocity of 2 rad/s . Find the rate of change of its linear velocity when the radius is 5 cm .

Q. No.	Answer
1.	2 cm/s
2.	4 m/s
3.	1.5 cm/s
4.	$10 \text{ cm}^2/\text{s}$
5.	10 cm/s

DISCUSS WITH YOUR FRIENDS

1. A particle moves in a circular path with a constant angular velocity of 2 rad/s . Find the rate of change of its linear velocity when the radius is 5 cm .

2. A right-angled triangle has a hypotenuse of length 10 cm . One of the other two sides is increasing at a rate of 1 cm/s . Find the rate of change of the area of the triangle when the other side is 6 cm .

Q. No.	Answer
1.	10 cm/s
2.	$10 \text{ cm}^2/\text{s}$