Calculus 12
7-5 Questions

1. How fast is the area of a square increasing when the side is 3 m in length and growing at a rate of 0.8 m/min?

2. How fast is the edge length of a cube increasing when the volume of the cube is increasing at a rate of 144 cm^3 / s and the edge length is 4 cm?

3. A stone is dropped into a lake, creating a circular ripple that travels outward at a speed of 25 cm/s. Find the rate at which the area within the circle is increasing after 4 s.

4. A spherical balloon is being inflated so that the volume is increasing at a rate of 8 m^3 / min. How fast is the radius of the balloon increasing when the diameter is 2 m?

5. A snowball melts so that its surface area decreases at a rate of 0.5 cm^2 / min. Find the rate at which the radius decreases when the radius is 4 cm.

6. The side of an equilateral triangle decreases at the rate of 2 cm/s. At what rate is the area decreasing when the area is 100 cm^2?