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5. A crystalline cube is slowly growing in a mineral bath. If the sides of the cube are growing 2 centimeters each day, how quickly is the surface area of the cube increasing when the length of a side is 10 centimeters?

6. Gin is being poured into a giant martini glass at a rate of 2 cubic inches per second. The martini glass is in the shape of an inverted cone with height 6 inches and radius 9 inches. How quickly is the gin level rising when it is at a height of 3 inches?

7. Find the maximum and minimum values that the function  $f(x) = x^3 - 12x + 1$  attains on the interval  $[-3, 4]$ .