1. When the sides of a cube are 5 inches, its surface area is changing at the rate of 60 square inches per inch increase in the side. If, at that moment, the sides are increasing at a rate of 3 inches per hour, at what rate is the surface area increasing?

   (a) 60

   (b) 3

   (c) 63

   (d) 20

   (e) 180

   (f) 5

   (g) 15

2. In 2016, the city of Austin added 159 people per day on average. The area of the city grows to keep the ratio of approximately 1 square mile per 10,000 people. Let A represent the area of the city, p the population of the city, and t the time (in days). What expression represents the rate at which the area of the city is increasing per day using the 159 people per day average and 1 square mile per 10,000 people?

   (a) $\left(\frac{dA}{dt}\right)\left(\frac{dp}{dt}\right)$

   (b) $\left(\frac{dA}{dp}\right)\left(\frac{dA}{dt}\right)$

   (c) $\left(\frac{dA}{dp}\right)\left(\frac{dp}{dt}\right)$

   (d) $(159)\left(\frac{1}{10000}\right)$

   (e) $\left(\frac{1}{159}\right)(10,000)$

   (f) $\left(\frac{1}{159}\right)\left(\frac{1}{10000}\right)$

   (g) (a) and (d)

   (h) (b) and (f)

   (i) (c) and (e)