

6. If 1200 cm^2 of material is available to make a box with a square base and no lid, find the largest possible volume of the box.

Ans: _____.

7. Two cars start moving from the same point. One travels north at 30 mph and the other travels east at 40 mph. At what rate is the distance between them increasing one hour later?

Ans: _____.

8. The position of a particle in the interval $[2, 4]$ is given by $s(t) = t^2 - 4t + 1$.

a) Find the average velocity in this interval.

b) Find a “ c ” satisfying the MVT on $I = [2, 4]$.

Ans: _____.

Ans: _____.

9. Find the antiderivative f .

a) $f'(x) = \sqrt{x} + \frac{1}{5x}$

b) $f'(x) = 3 \sec^2 x + \frac{4}{1+x^2}$

Ans: _____.

Ans: _____.

10. The acceleration of a particle is given by $a(t) = -9.8 \text{ m/s}^2$, with $v(0) = 4$ and $s(0) = 2$.

a) Find the velocity of the particle.

b) Find the position of the particle.

Ans: _____.

Ans: _____.

Extra space