

sec 2.1:

1(a) and (b), 6 (except use the function $h = 10t - 1.86t^2$), and

8. The displacement of a particle moving back and forth along a straight line is given the equation of motion $s = 2 \sin(\pi t) + 3 \cos(\pi t)$, t is measured in seconds.

(a) Find the average velocity during each time period:

- (i) [1,2] (ii) [1,1.1]
(iii) [1,1.01] (iv) [1,1.001]

(b) Estimate the instantaneous velocity of the the particle when $t = 1$.

sec. 2.2:

4, 8, 14, 20,

26. Determine the infinite limit

$$\lim_{x \rightarrow -3^-} \frac{x + 2}{x + 3}.$$

28. Determine the infinite limit

$$\lim_{x \rightarrow 5^-} \frac{e^x}{(x - 5)^3}.$$

34(a). Find the vertical asymptotes of the function

$$y = \frac{x^2 + 1}{3x - 2x^2}.$$

sec 2.3:

4, 8, 12, 16, 22,

24. Evaluate the limit:

$$\lim_{x \rightarrow -1} \frac{x^2 + 2x + 1}{x^4 - 1}.$$

28,

30. Evaluate the limit:

$$\lim_{x \rightarrow -4} \frac{\sqrt{x^2 + 9} - 5}{x + 4}.$$

33 (no need to include graph)