

1B. Velocity and rates of change

1a)

$$16(2)^2 = 64$$

$$\frac{64}{2} = \boxed{32}$$

1c)

$$v(t) = x'(t) = 32t$$

$$v(5) = 32(5) = \boxed{160}$$

1b)

$$400 = 16t^2$$

$$t = 5$$

$$16(3)^2 = 144$$

$$\frac{(400 - 144)}{2} = \boxed{128}$$