

4. (a) $(10 - 10)/(3 - 0) = 0 \text{ cm/s}$
 (b) $t = 0$, $t = 2$, and $t = 4.2$ (horizontal tangent line)
 (c) maximum: $t = 1$ (slope > 0) minimum: $t = 3$ (slope < 0)
 (d) $(3 - 18)/(4 - 2) = -7.5 \text{ cm/s}$ (slope of estimated tangent line to curve at $t = 3$)

17. (a) 72°F at about 4:30 P.M. (b) about $(67 - 43)/6 = 4^\circ\text{F/h}$
 (c) decreasing most rapidly at about 9 P.M.; rate of change of temperature is about -7°F/h
 (slope of estimated tangent line to curve at 9 P.M.)

18. For $V = 10$ the slope of the tangent line is about -0.25 atm/L , for $V = 25$ the slope is about -0.04 atm/L .

19. (a) during the first year after birth
 (b) about 6 cm/year (slope of estimated tangent line at age 5)
 (c) the growth rate is greatest at about age 14; about 10 cm/year

