

Section 4.4

1a) 5 seconds

1b) 2.5 seconds

1c) 100 feet

3a) at 1 and 7 seconds

3b) 8.04 seconds

3c) 8.04 seconds

5) it will hit the ground in 5 seconds

7) $t = 2.5$ seconds,

9a) 25 units will maximize profit

9b) maximum profit will be \$625

11a) produce 20 units to minimize cost

11b) minimum cost is \$700

13a) see below

13b) *linear regression* $h = -0.46t + 16.73$ *quadratic regression* $h = -2t^2 + 12t + 3$

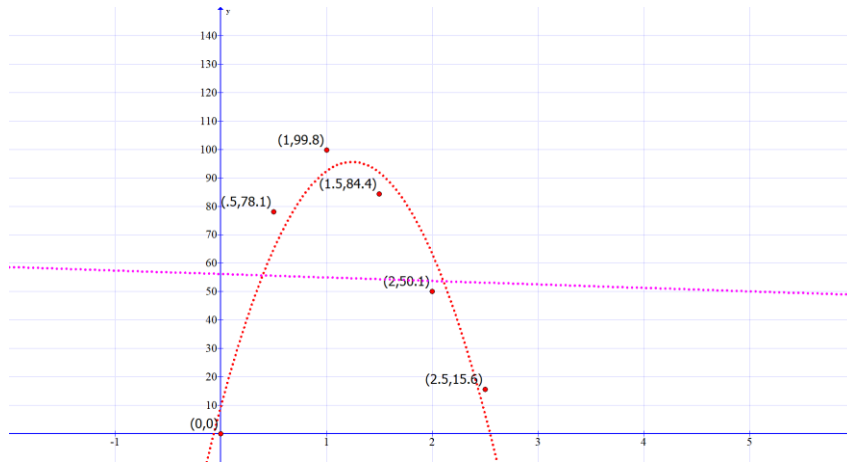
13c) *quadratic regression*

13d) see below

13f) 21 feet



15a) ad 15d)



15b) linear $c(t) = -12 \cdot t + 56.20$ quadratic $c(t) = -56.21t^2 + 139.31t + 9.35$

15c) quadratic 15e) 81 mg/l