Lesson 2.3.3

2-122. See below:

b. Not quite linear, only approximately linear. The function is still a curve.

2-123. See below:

g. Answers vary.

2-124. See below:

b. Answers will vary on the definition of "good approx." However, y-values for $-0.854 < x \leq 0.854$ are within 0.1 of each other.

c. Under on $(-\infty, 0)$ and over on $(0, \infty)$.

d. 1

e. 0

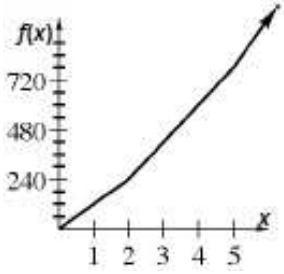
2-125. See below:

a. even

b. odd

2-126. See below:

a. See graph below; $D: \{x : x \geq 0\}$; $R: \{y : y \geq 0\}$



b. Yes

c. 5190 customers in this 8-hour period

2-127. See below:

a. The plant grows at a relatively steady rate until around 4 months when there is a sharp increase in growth; around 4.5 months, the rate starts to level off again.

b. $4 \le t \le 5$ (approximately); by looking at where the slope is steepest.

c. $\approx \frac{3}{4}$ ft/month; by estimating the slope of the tangent line at $x = 3$.

d. ≈ 1.4 ft/month; by estimating the slope of the secant line from $x = 0$ to $x = 5$.

2-128. 18π units^3.

2-129. negative reciprocals

2-130. –6; $f(x) = \begin{cases} \frac{x^2-9}{x+3} & \text{for } x \neq -3 \\ -6 & \text{for } x = -3 \end{cases}$

2-131. See below:

a. 0

b. 0

c. $-\frac{4}{9}$

d. DNE