

Even Answers

A1 Section 14.1 Page 644

2. for $\Delta x = \Delta y = 0.1$ $f_x(1,3) = -0.0493$

$$f_y(1,3) = -0.3660$$

for $\Delta x = \Delta y = 0.01$ $f_x(1,3) = -0.0501$

$$f_y(1,3) = -0.3629$$

4. a. Negative b. Positive c. If p increases by \$1, the store will sell 213 fewer kilograms of beef

6. a. Payment = \$1090.08/month when you borrow \$92,000 at 14% for 30 years.

b. Payment increases \$72.82 for a 1% increase in r .

c. Positive

d. Negative

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10. $e^{\sqrt{xy}} \left(1 + \frac{\sqrt{xy}}{2}\right)$

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20. a. $dT = 12.16 dV + 304.29 dP$

b. $\Delta V \approx -2.5$

22. a. $\Delta U \approx 27.32 \Delta T$ b. $\Delta U \approx 840 \Delta V$ c. 55 joules