Section 2.5 Answers.

1a) $C(100) = 1900$ 1b) The cost to produce 100 units of the product is \$1,900

1c) $C'(x) = 0.2x + 8$ 1d) $C'(100) = 28$

1e) It will cost an additional \$28 to produce the 101st unit of the product.

3a) $C(100) = 204.61$ 3b) It will cost \$204.61 to produce 100 cell phone cases.

3c) $C'(x) = \frac{1}{x} + 2$ 3d) $C'(100) = 2.01$

3f) It will cost an additional \$2.01 to produce the 101st cell phone case.

5a) $P(1000) = 6000$

5b) The monthly profit is \$6,000 in a month in which 1000 bobble heads are sold.

5c) $P'(x) = -0.002x + 8$

5d) $P'(1000) = 6$

5e) An additional \$6 of profit will be earned by selling the 1001st bobble head.

7a) $P(64) = 632$

7b) The profit will be \$632 in a week in which 64 vending machines are stocked.

7c) $P'(x) = 10 - \frac{1}{2\sqrt{x}}$

7d) $P'(64) = 9.94$

7e) An additional profit of \$9.94 will be earned by stocking the 65th vending machine.

9a) $p(5) = 4$

9b) $at\ a\ price\ of\ \$4\ per\ quart, 5\ quarts\ will\ be\ demanded$

9c) $R(x) = -0.50x^2 + 6.50x$

9d) $R(5) = 20$

9e) The revenue will be \$20 when 5 quarts of blueberries are sold.

9f) $R'(x) = -x + 6.5$

9g) $R'(5) = 1.50$

9h) An additional \$1.50 of revenue will be earned when the 6th quart of blueberries is sold.