8. [9 points] The owner of Sarah and Peter's regular pizza place offers a special at dinner. When customers order a pizza, an order of breadsticks, and a large salad, they get a discount. Suppose a customer normally pays \$15 for each pizza, \$5 for an order of breadsticks, and \$8 for a large salad.

a. [3 points] The owner has been experimenting with different discounts. When he offers a discount of d dollars on the dinner special, he sells $C(d)$ specials each day. Write an expression, possibly involving $C(d)$ and d, for $R(d)$ the total revenue (sales in dollars, with no expenses) from dinner specials per day.

$R(d) =$ $(28-d)C(d)$.

b. [2 points] The cost of all the ingredients to make each dinner special is \$8. Write an expression, possibly involving $C(d)$ and d, for $P(d)$, the total revenue from the dinner special minus the cost of the ingredients, when the discount on the dinner specials is d dollars.

$P(d) =$ $(20-d)C(d)$.

c. [4 points] After experimenting with different discounts, the owner discovers that

$$R(d) = \frac{1}{100}d(28-d)(78-d).$$

Find formulas (involving only d) for $C(d)$ and $P(d)$.

$C(d) =$ $\frac{1}{100}d(78-d)$.

$P(d) =$ $\frac{1}{100}d(20-d)(78-d)$.