

12. [8 points] In preparation for an upcoming party, you are deciding where to buy a large supply of candy. You have investigated two sources. Define functions C and T as follows.

- It costs $C(p)$ dollars to buy p pounds of candy from the Candy Company.
- For d dollars, you can buy $T(d)$ pounds of candy from Tasty Sweets.

Assume that both C and T are invertible.

a. [1 point] Write an equation that expresses the fact that it costs \$25 to buy 10 pounds of candy from Tasty Sweets.

Answer: _____ $T(25) = 10$ (or $T^{-1}(10) = 25$)

b. [1 point] Write an expression that gives the cost of purchasing k pounds of candy from Tasty Sweets.

Answer: _____ $T^{-1}(k)$

c. [2 points] Write an equation that expresses the fact that it costs \$10 more to buy 20 pounds of candy from the Candy Company than to buy 15 pounds of candy from the Candy Company.

Answer: _____ $C(20) = C(15) + 10$

d. [2 points] The Candy Company claims that purchasing twice as much candy always costs less than twice as much. Express this statement as an inequality involving C and p .

Answer: _____ $C(2p) < 2C(p)$

e. [2 points] Interpret the meaning of the equation $T(C(15)) = 20$ in the context of this problem. (*Use a complete sentence.*)

Solution: For the price of buying 15 pounds of candy from the Candy Company, you can buy 20 pounds of candy from Tasty Sweets.

Alternative: It costs the same amount of money to buy 20 pounds of candy from Tasty Sweets as it does to buy 15 pounds of candy from the Candy Company.

13. [5 points] (Your score on this problem was determined when you took the LA Post-Test.)