

3. [8 points] Rachel is the online marketing manager at a dress shop. She is running a week-long (168 hour) Facebook promotion for a specific dress starting Monday at 12:00am. The price of the dress changes according to how many times it has been viewed on Facebook since the start of the promotion. Let $V(h)$ be the total number of times the dress has been viewed on Facebook during the first h hours of the promotion. Let $P(v)$ be the price of the dress, in dollars, after it has been viewed v times during the promotion.

a. [3 points] Assuming P^{-1} is a function, give a practical interpretation of the expression $P^{-1}(200) = 350$.

Solution: The price of the dress is \$ 200 after it has been viewed on Facebook 350 times.

b. [3 points] Give a practical interpretation of the expression $P(V(100))$.

Solution: $P(V(100))$ is the price of the dress, in dollars, 100 hours into the promotion.

c. [2 points] Compare the quantities below by writing one of the symbols \leq , \geq , or $=$ in the blank, or by writing “N” if there is not enough information in the problem to compare them. You do not need to justify your answer.

$$V(20) \underline{\leq} V(35).$$

4. [4 points] Suppose quantities Q , E , and D are temperatures in $^{\circ}F$ at three different locations near Phoebe’s apartment building measured at five different times during the winter. Which of Q , E and D could be a function of another?

Q	13.2	4	0	3.2	3
E	19	-1	11	17.25	-1
D	23.7	-8	15	12.3	-18

Circle all of the following statements that **could** be true:

Q is a function of E .

Q is a function of D .

E is a function of D .

E is a function of Q .

D is a function of E .

None of these.