

### Step 1 of 3

At  $x = 200$ , the retailer knows that the minimum and maximum values of the final customer demand are  $200 - 75 = 125$  and  $200 + 75 = 275$ , respectively. Therefore, the correct answer is (b) Final customer demand must be a value between  $(200-75)$  and  $(200+75)$ .

Explanation:

**3. The retailer knows that  $x$ , which is the observed unit demands, is equal to 200. Using the formula  $D = x + y$ , where  $D$  is the final customer demand, the retailer knows that the final customer demand must be a value between  $(200-75)$  and  $(200+75)$ , which is  $(125)$  and  $(275)$ , respectively. Therefore, the correct answer is (b). Step 2 of 3**

4. If the retailer reports  $X=200$  to the supplier, the supplier knows that the minimum and maximum values of the final customer demand are  $200 - 75 = 125$  and  $200 + 75 = 275$ , respectively. Therefore, the correct answer is (a) Final customer demand must be some value between  $(200-75)$  and  $(200+75)$ .

**Explanation:**

4. If the retailer reports  $X = 200$ , then the supplier knows that the final customer demand must be some value between  $(200-75)$  and  $(200+75)$ , which is  $(125)$  and  $(275)$ , respectively. Therefore, the correct answer is (a).

### Step 3 of 3

5. In the equation  $a + b = c$ , we are given the values of two variables, and we need to find the value of the third variable.

a)  $a=100$ ,  $b=2000$ ,  $c=2100$  ( $100 + 2000 = 2100$ )

b)  $a=120$ ,  $b=3600$ ,  $c=3720$  ( $120 + 3600 = 3720$ )

c)  $a=100$ ,  $b=2000$ ,  $c=3000$  ( $100 + 2000 = 3000$ )

Therefore, the correct answer is (c)  $a=100$ ,  $b=2000$ ,  $c=3000$

**Explanation:**

5. The total demand,  $D$ , is given by the formula  $D = a + b + c$ , and we know that  $D$  must be between 100 and 400. For option (a),  $D = 100 + 2000 + 2000 = 4100$ , which is outside the range. For option (b),  $D = 120 + 3600 + 2400 = 6120$ , which is also outside the range. However, for option (c),  $D = 100 + 2000 + 4000 = 6100$ , which is within the range. Therefore, the correct answer is (c)

### Final solution

For question 3, the correct answer is (b) Final customer demand must be a value between  $(200-75)$  and  $(200+75)$ .

For question 4, the correct answer is (a) Final customer demand must be some value between  $(200-75)$  and  $(200+75)$ .

For question 5, the correct answer is (c)  $a=100$ ,  $b=2000$ ,  $c=4000$ .

