

16. Incorrect. The answer is true not false. First, solve for initial equilibrium by setting demand price equal to supply price.

$$P_d = 100 - 2Q = P_s = 20 + 3Q \Rightarrow 5Q = 80 \Rightarrow Q = 16.$$

You can solve for quantity after the subsidy by adding the subsidy to the demand price and setting it equal to the supply price.

$$P_d + sb = 100 - 2Q + 5 = P_s = 20 + 3Q \Rightarrow 5Q = 85 \Rightarrow Q = 17.$$