

8 If the supply function for a commodity is  $p = q^2 - 8q + 16$  and the demand function is  $p = -3q^2 + 6 + 436q$ , find the equilibrium point.

Eq. point:  $D = S$

$$\begin{aligned} -3q^2 + 6 + 436q &= q^2 - 8q + 16 \\ +3q^2 - 6 - 436q &+3q^2 - 436q - 6 \end{aligned}$$

$$\rightarrow 0 = 4q^2 - 444q + 10$$

$$a = 4, b = -444, c = 10$$

$$q = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$= \frac{444 \pm \sqrt{444^2 - 4(4)(10)}}{2(4)}$$

$$= \frac{444 \pm \sqrt{196976}}{8}$$

$$= \frac{444 \pm 443.8}{8}$$

$$= 110.97, .025$$

Eq:  $(110.97, 11.44)$  تقریباً <sup>سایه</sup>