demand, $X = 856 - 0.01p^2$

(a) Find the expression for elasticity of demand and simplify

Eqt:

Elasticity of demand $= \frac{\Delta x}{\Delta p}$ = differentiating demand function wrt x and p

$Ed = \frac{dx}{dp} = -0.02p$

Elasticity is negative thus Elasticity is

$= 0.02p$

(b) Evaluate Ed for $p = 80$, classify the type of elasticity

$Ed = 0.02p$

But $p = 80$

$= 0.02 \times 80$

$= 1.6$

Type of elasticity is elastic demand. since the elasticity of demand value is greater than 1 a distinctive characteristic of elastic demand

Prediction; when the price of round-trip airline is $80, demand will increase by 1.6

(c) Evaluate Ed for $P = 100$

$Ed = 0.02p$

$P = 100$

$= 0.02 \times 100$

$= 2$

Type of elasticity is elastic demand, since the elasticity of demand value is greater than 1 a distinctive feature of elastic demand

Prediction; when the price of round trip airline is $100, demand will increase by 2.

d P=100 (Replacing to the demand function) $X = 256 - 0.01p^2$

$X = 256 - 0.01p^2$

$X = 256 - 0.01(100)^2 = 156$

$P = \frac{110}{100} \times 100 = 110$

$X = 256 - 0.01(110^2) = 135$

o It is a bad decision on increasing prices by 10%, the quantity demand will decline from 156 to 135 which means that the selling price will be making lower by generating low value

6

$X = 25 \ln 475 - 25 \ln P$ for $0 < P < 375$

Getting demand function

$X = 25 \ln 475 - 25 \ln P$

getting rid of ln by getting their ln.

$X = 25 \ln 475 - 25 \ln P$

$X = 25.6.1633 - 25P$

$X = 154.0828 - 25P$

demand $= 154.0828 - 25P = X$

Elasticity of demand $= \frac{dx}{dp} = -25$

Ignore negative

$E_d = 25$