

Box 6.2

Get Demand Function (2 forms) and Plot

Enter Elasticity and a Demand Point;

```
elast = -0.3;  
pbase = 2889.;  
qbase = 180;
```

Calculate linear parameters

```
slope = elast * qbase / pbase;  
incpt = qbase - slope * pbase;
```

Linear (q form given first, then inverted for p (mb) form)

```
qlin = slope * plin + incpt
```

```
234. - 0.0186916 plin
```

```
mblin = plin /. (Flatten[Simplify[Solve[q == qlin, plin]]])
```

```
12519. - 53.5 q
```

```
qlin /. plin -> 3033.33333
```

```
177.302
```

Copy Demand Function from above into integral

```

$$\int_{3033.3333}^{2888.8889} (234. - 0.01869158878504673 * p) dp$$
  
-25805.1
```

```
qlin /. plin -> 3033.33333
```

```
177.302
```