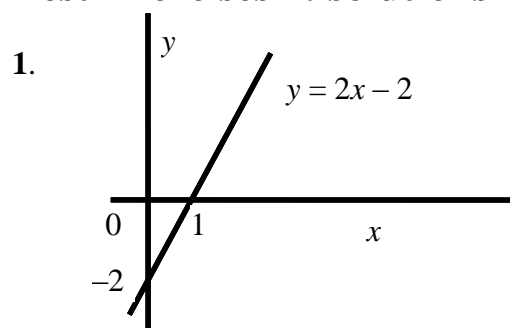


## Test Exercises 2: solutions



2. (a)  $y = -0.5x + 2$  : slope =  $-0.5$ , intercept =  $2$

2. (b)  $P = 2Q - 8$  : slope =  $\frac{\Delta P}{\Delta Q} = 2$ , intercept =  $-8$

OR  $Q = 0.5P + 4$ : slope =  $\frac{\Delta Q}{\Delta P} = 0.5$ , intercept =  $4$

2. (c)  $P = 5Q + 4$  : slope =  $\frac{\Delta P}{\Delta Q} = 5$ , intercept =  $4$

OR  $Q = 0.2P - 0.8$ : slope =  $\frac{\Delta Q}{\Delta P} = 0.2$ , intercept =  $-0.8$

2. (d)  $Q = -1$ . Plot  $P$  on the vertical axis, then this is a vertical line (infinite slope), which cuts the horizontal axis at  $Q = -1$ . Plot  $Q$  on the vertical axis, then this is a horizontal line (no slope), which cuts the vertical axis at  $Q = -1$

2. (e) a horizontal line which cuts the vertical axis at  $y = 1$

2. (f) a vertical line which cuts the  $x$ -axis at  $x = 4$ .

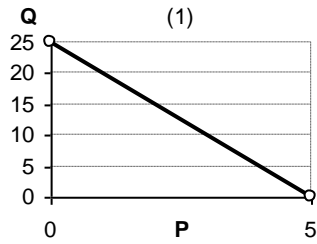
2. (g) The  $45^\circ$  line which has a slope =  $1$  and cuts the vertical axis at  $y = 0$ , (at the origin)

3. (a)  $y = 1.4x + 1.6$  (b)  $y = -0.5x + 4$  (c)  $y = x - 2$

## Test Exercises Solutions Chapter 2

4. (a)

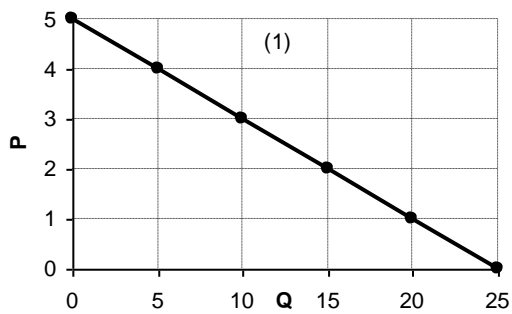
Demand function (1)  $Q = 25 - 5P$



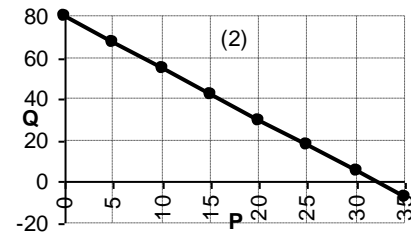
(b)  $P = 2$

(c)  $-2/3$

(d)  $P = 5 - 0.2Q$



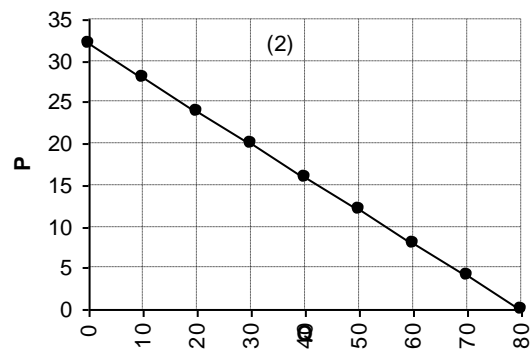
Demand function (2)  $Q = 80 - 2.5P$



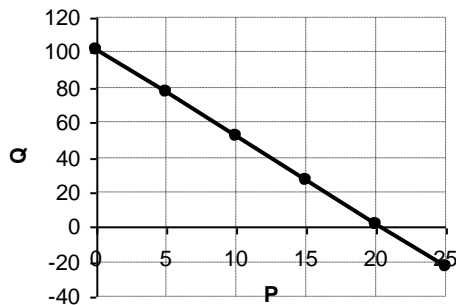
(b)  $P = 26$

(c)  $-4.33$

(d)  $P = 32 - 0.4Q$



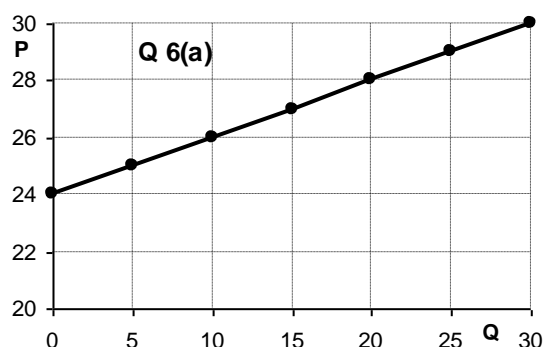
5. (a)  $Q = 102 - 5P$



5 (b) arc elasticity  $= -0.7$

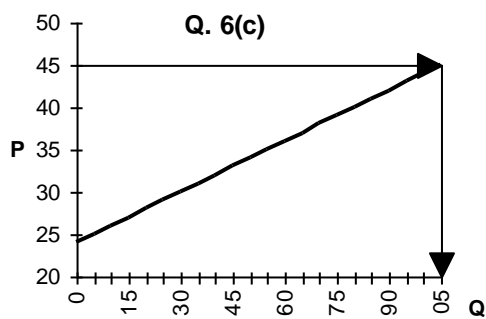
## Test Exercises Solutions Chapter 2

6. (a)



6. (b)  $P = 24 + 0.2Q$  or  $Q = 5P - 120$

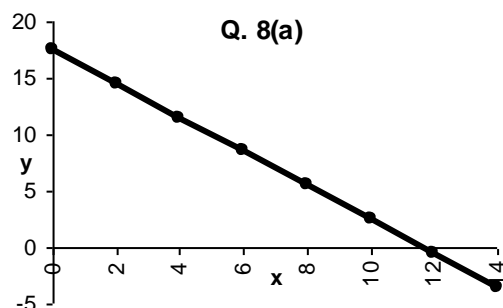
6. (c)  $Q = 105$ . The graph is plotted from  $Q = 0$  to  $Q = 105$



7. Replace  $P$  by  $(P - 1.5)$  in the supply function to adjust for the tax of 1.5 per unit. Hence  $20(P - 1.5) = 80 + 5Q$ . This simplifies to  $20P = 110 + 5Q$

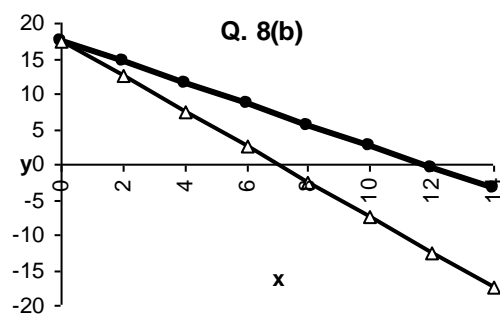
8. Let  $x$  = number of football matches;  $y$  = number of visits to cinema

8. (a)  $12x + 8y = 140 \rightarrow y = 17.5 - 1.5x$ . Horizontal intercept = 11.67



8. (b)  $20x + 8y = 140 \rightarrow y = 17.5 - 2.5x$ . Horizontal intercept = 7. Less football is affordable; therefore the line pivots downward towards the origin from the fixed vertical intercept

## Test Exercises Solutions Chapter 2



Original Budget line

Adjusted Budget line:  
Less football is affordable