

Solution Key: Homework for Chapter 9

1.

L	K	X	TVC	TFC	TC	AVC	AFC	ATC	MC
0	10	0	0	\$ 750	\$ 750	~	~	~	~
5	10	60	40	\$ 750	\$ 790	0.67	12.50	13.17	\$ 0.67
10	10	140	80	\$ 750	\$ 830	0.57	5.36	5.93	\$ 0.50
15	10	195	120	\$ 750	\$ 870	0.62	3.85	4.46	\$ 0.73
20	10	240	160	\$ 750	\$ 910	0.67	3.13	3.79	\$ 0.89
25	10	275	200	\$ 750	\$ 950	0.73	2.73	3.45	\$ 1.14
WAGE	\$ 8								
RATE	\$ 75								

2.

Quantity	TC	MC	ATC	AVC	AFC
\$ -	\$ 20.00	~	~	~	~
\$ 1.00	\$ 40.00	\$ 20.00	\$ 40.00	\$ 20.00	\$ 20.00
\$ 2.00	\$ 50.00	\$ 10.00	\$ 25.00	\$ 15.00	\$ 10.00
\$ 3.00	\$ 66.00	\$ 16.00	\$ 22.00	\$ 15.33	\$ 6.67
\$ 4.00	\$ 86.00	\$ 20.00	\$ 21.50	\$ 16.50	\$ 5.00
\$ 5.00	\$ 110.00	\$ 24.00	\$ 22.00	\$ 18.00	\$ 4.00

3.

20 orders						
Quantity of Trucks	FC	VC	TC	AFC	AVC	ATC
2	\$6,000.0	\$ 2,000.0	\$ 8,000.0	\$300.0	\$100.0	\$ 400.0
3	\$7,000.0	\$ 1,800.0	\$ 8,800.0	\$350.0	\$ 90.0	\$ 440.0
4	\$8,000.0	\$ 1,200.0	\$ 9,200.0	\$400.0	\$ 60.0	\$ 460.0
40 orders						
Quantity of Trucks	FC	VC	TC	AFC	AVC	ATC
2	\$6,000.0	\$ 5,000.0	\$11,000.0	\$150.0	\$125.0	\$ 275.0
3	\$7,000.0	\$ 3,800.0	\$10,800.0	\$175.0	\$ 95.0	\$ 270.0
4	\$8,000.0	\$ 3,600.0	\$11,600.0	\$200.0	\$ 90.0	\$ 290.0
60 orders						
Quantity of Trucks	FC	VC	TC	AFC	AVC	ATC

2	\$6,000.0	\$12,000.0	\$18,000.0	\$100.0	\$200.0	\$ 300.0
3	\$7,000.0	\$10,800.0	\$17,800.0	\$116.7	\$180.0	\$ 296.7
4	\$8,000.0	\$ 8,400.0	\$16,400.0	\$133.3	\$140.0	\$ 273.3

For 20 Orders but 2 trucks since the ATC is minimized (\$400.0)

For 30 Orders but 3 trucks since the ATC is minimized (\$278.0)

For 40 Orders but 4 trucks since the ATC is minimized (\$273.3)

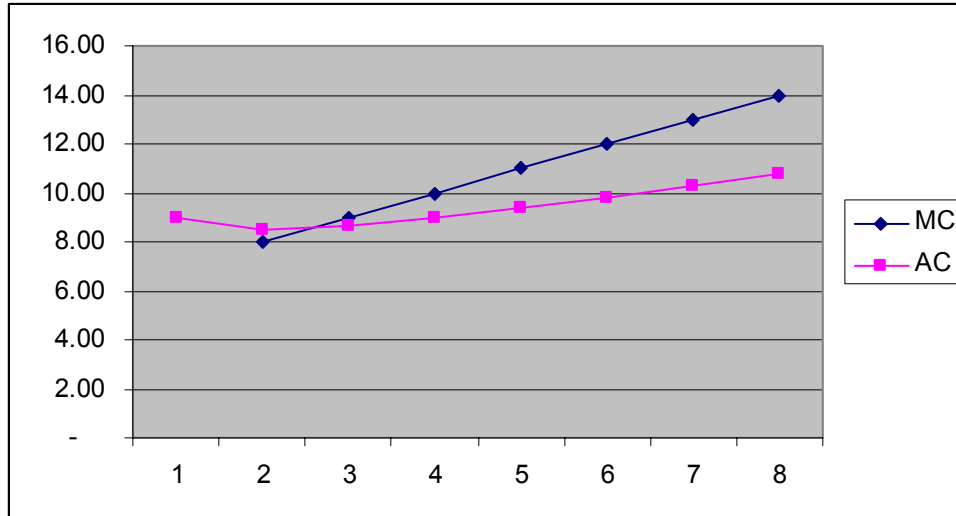
4.

X	TFC	TVC	TC	MC	AFC	AVC	ATC
1	\$ 100.00	\$ 50.00	\$ 150.00	~	\$ 100.00	\$ 50.00	\$ 150.00
2	\$ 100.00	\$ 80.00	\$ 180.00	\$ 30.00	\$ 50.00	\$ 40.00	\$ 90.00
3	\$ 100.00	\$ 120.00	\$ 220.00	\$ 40.00	\$ 33.33	\$ 40.00	\$ 73.33
4	\$ 100.00	\$ 170.00	\$ 270.00	\$ 50.00	\$ 25.00	\$ 42.50	\$ 67.50
5	\$ 100.00	\$ 250.00	\$ 350.00	\$ 80.00	\$ 20.00	\$ 50.00	\$ 70.00

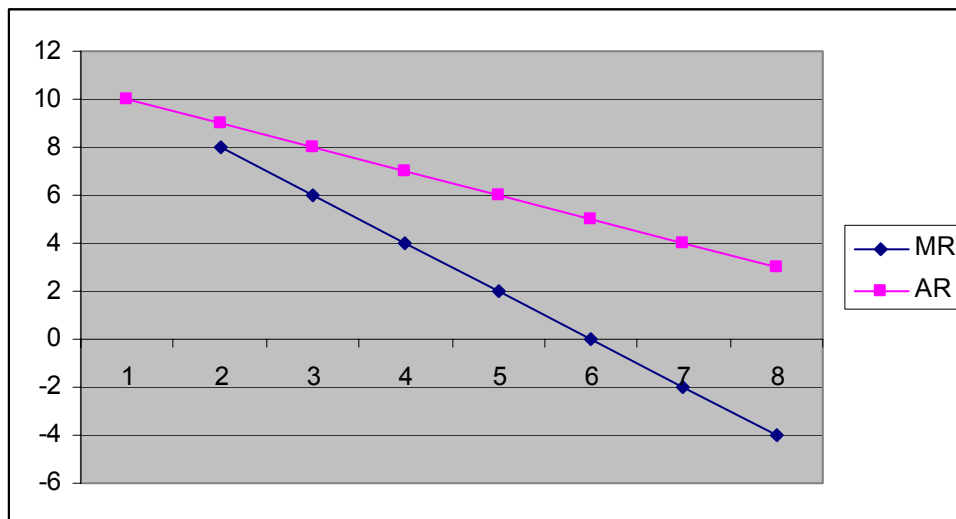
5.

TOTAL OUTPUT	TOTAL REVENUE	TOTAL COST	MC	AC	MR	AR
1	\$ 10.00	\$ 9.00		9.00		\$ 10.00
2	\$ 18.00	\$ 17.00	8.00	8.50	\$ 8.00	\$ 9.00
3	\$ 24.00	\$ 26.00	9.00	8.67	\$ 6.00	\$ 8.00
4	\$ 28.00	\$ 36.00	10.00	9.00	\$ 4.00	\$ 7.00
5	\$ 30.00	\$ 47.00	11.00	9.40	\$ 2.00	\$ 6.00
6	\$ 30.00	\$ 59.00	12.00	9.83	\$ -	\$ 5.00
7	\$ 28.00	\$ 72.00	13.00	10.29	\$ (2.00)	\$ 4.00
8	\$ 24.00	\$ 86.00	14.00	10.75	\$ (4.00)	\$ 3.00

a.



b.



c. $MC = MR = \$8.00$ so the firm should produce 2 units

d. \$1 units of profit.