Week 7
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1. a. AFC = 100
AVC = 20
ATC = 120

b. P < AVC
300 - 460 = -160
360 ÷ 6 = 60
TC = 460
TR = 6 × 50 = 300

c. MR = MC
TR = 0 TC = 100
TR = 50 TC = 150
MR = 50 TC = 50

2. a.

q	TC	VC	FC	AC	AVC	MC	MR
0	10	0	10	0	0		
1	20	10	10	20	10	10	10
2	23	13	10	11.5	6.5	3	
3	28	18	10	9.3	6	5	
4	38	28	10	9.5	7	10	
5	60	50	10	12	10	22	

b. P = 80, $TC_A = 100q - 15q^2 + q^3 + 100$
$TC_B = 110q - 15q^2 + q^3 + 250$

c. $TVC = 100q - 15q^2 + q^3$
$AVC = 100 - 15q + q^2$
$MC = 100 - 30q + 3q^2 \rightarrow q = 7.5$
$P = MC = 100 - 30 \times 7.5 + 3(7.5)^2 = 43.75$
$P = MC = 110 - 30 \times 7.5 + 3 \times (7.5)^2 = 53.75$