Closing Thu: Sup 6-7

Closing Tue: Sup 8-9

Read Sup 8-9 and my four page summary review of Sup 1-9.

Supp. 9: AC, AVC, and AR

New terms:

$$\boldsymbol{AC(q) = \frac{TC(q)}{q}}$$

= **average cost** to make *q* items

= slope of the **diag. line to TC** at *q*

$$\boldsymbol{AVC(q) = \frac{VC(q)}{q}}$$

= **ave. variable cost** to make *q* items

= slope of the **diag. line to VC** at *q*

$$\boldsymbol{AR(q) = \frac{TR(q)}{q}}$$

= **average revenue** in selling *q* items

= slope of the **diag. line to TR** at *q*

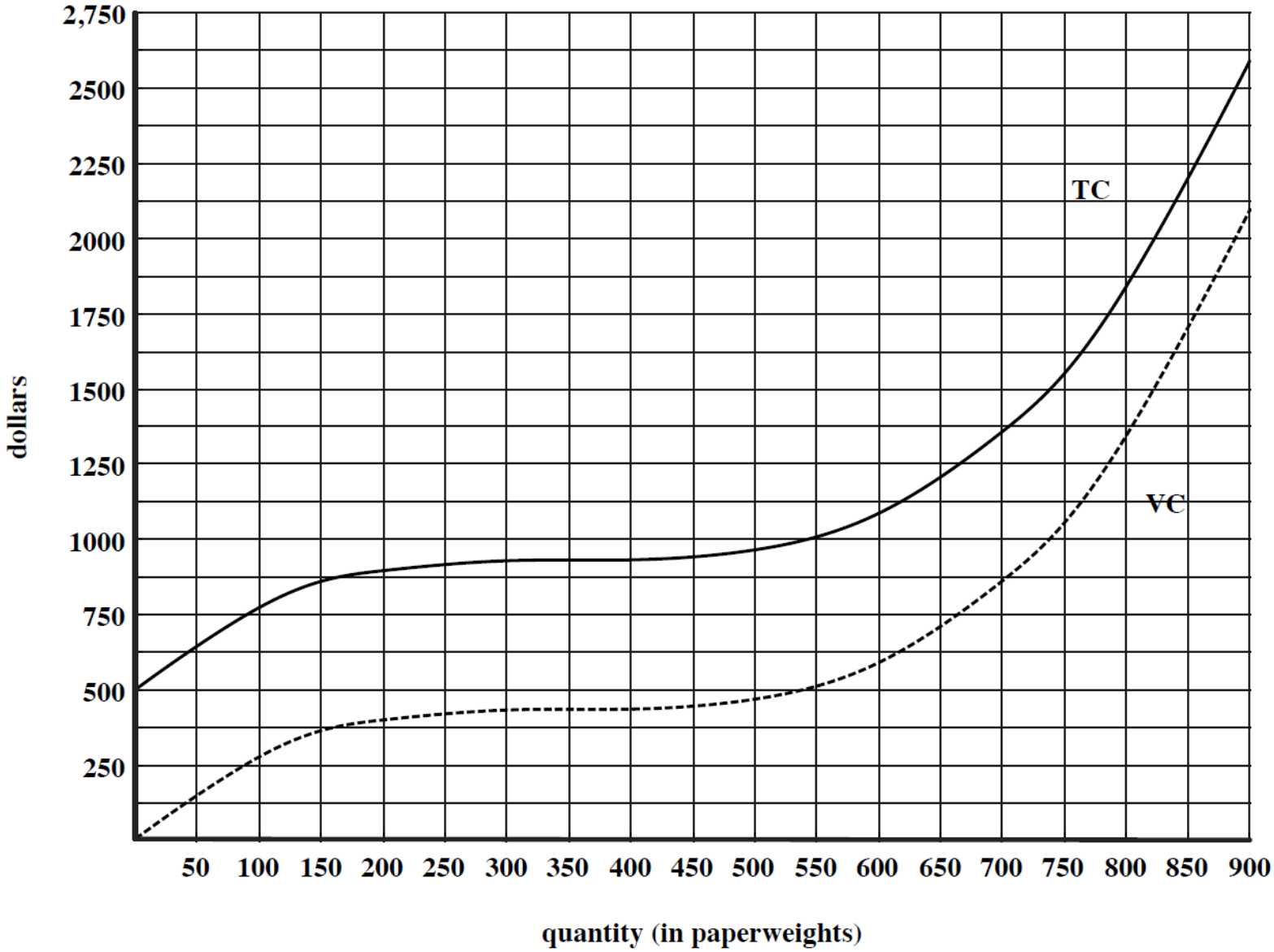
Entry Task:

Get out the paperweights graph.

By drawing appropriate lines and computing slopes estimate:

1. MC(200)
2. AC(300)
3. AVC(700)

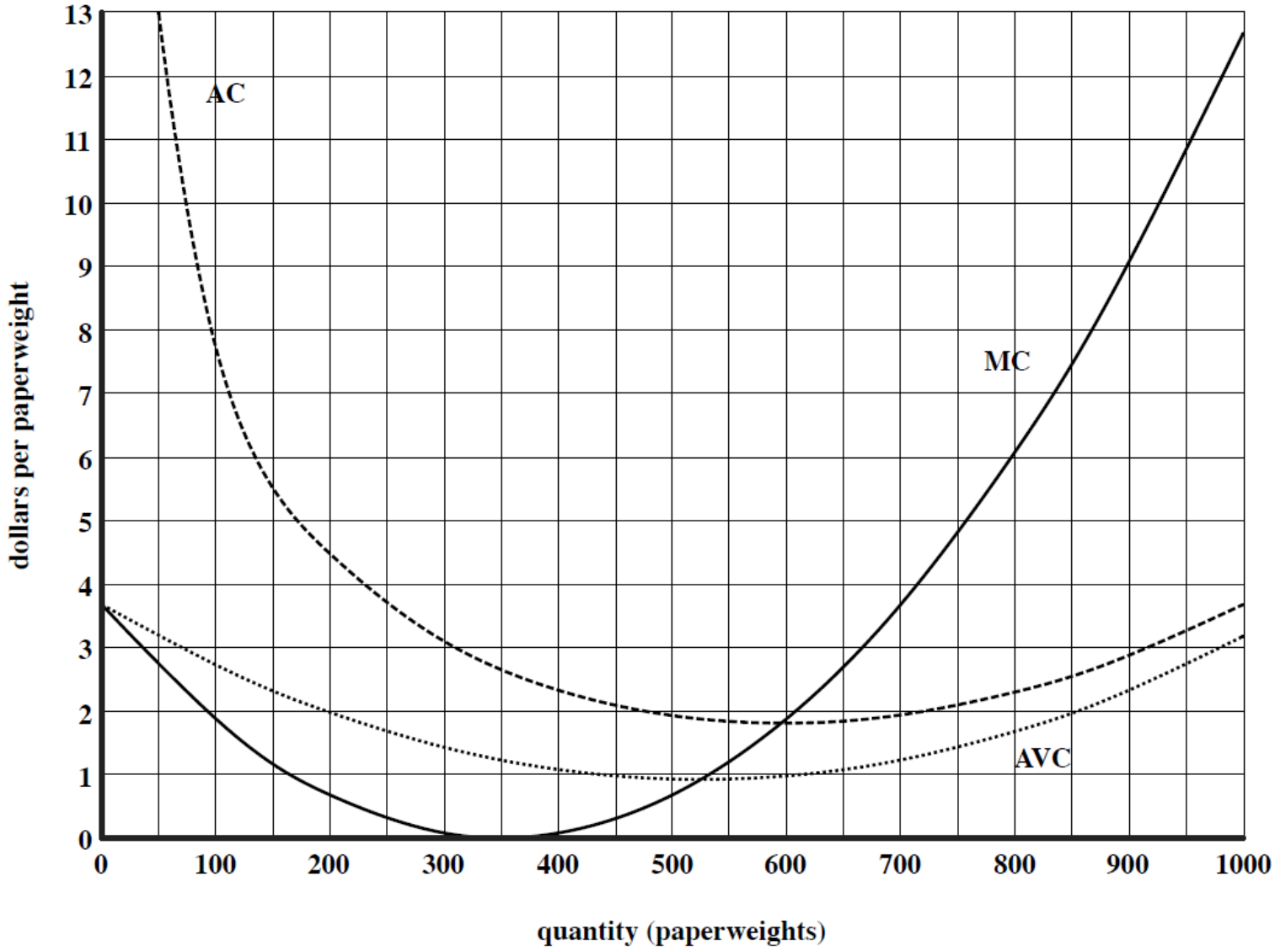
Paperweights cost analysis



Notes about AC, AVC, and AR:

1. They give *overall* rate info, **but <u>all</u> are diagonal lines!**
2. AC(q) includes FC in the average (because TC(q) includes FC).
3. AVC(q) does not include FC.
4. AR(q) is the same as price per item.

q	100	200	300	400	500	600	700	800	900	1000
MC	1.88		0.08	0.08	0.68	1.88	3.68	6.08	9.08	12.68
AC	7.73	4.48		2.33	1.93	1.81	1.94	2.30	2.88	3.68
AVC	2.73	1.98	1.43	1.08	0.93	0.98		1.68	2.33	3.18



Key Concept Review/Observations

Go back to the TC, VC graphs

1. Compute:
   A) Breakeven price (BEP)
   B) Shutdown price (SDP)

Now look at the AC, AVC, MC graph.

Any observations?

Again, go back to the TC, VC graphs

2. Assume the market price for is 2.50 dollars/paperweight.

Before you do anything else, is a positive profit possible?

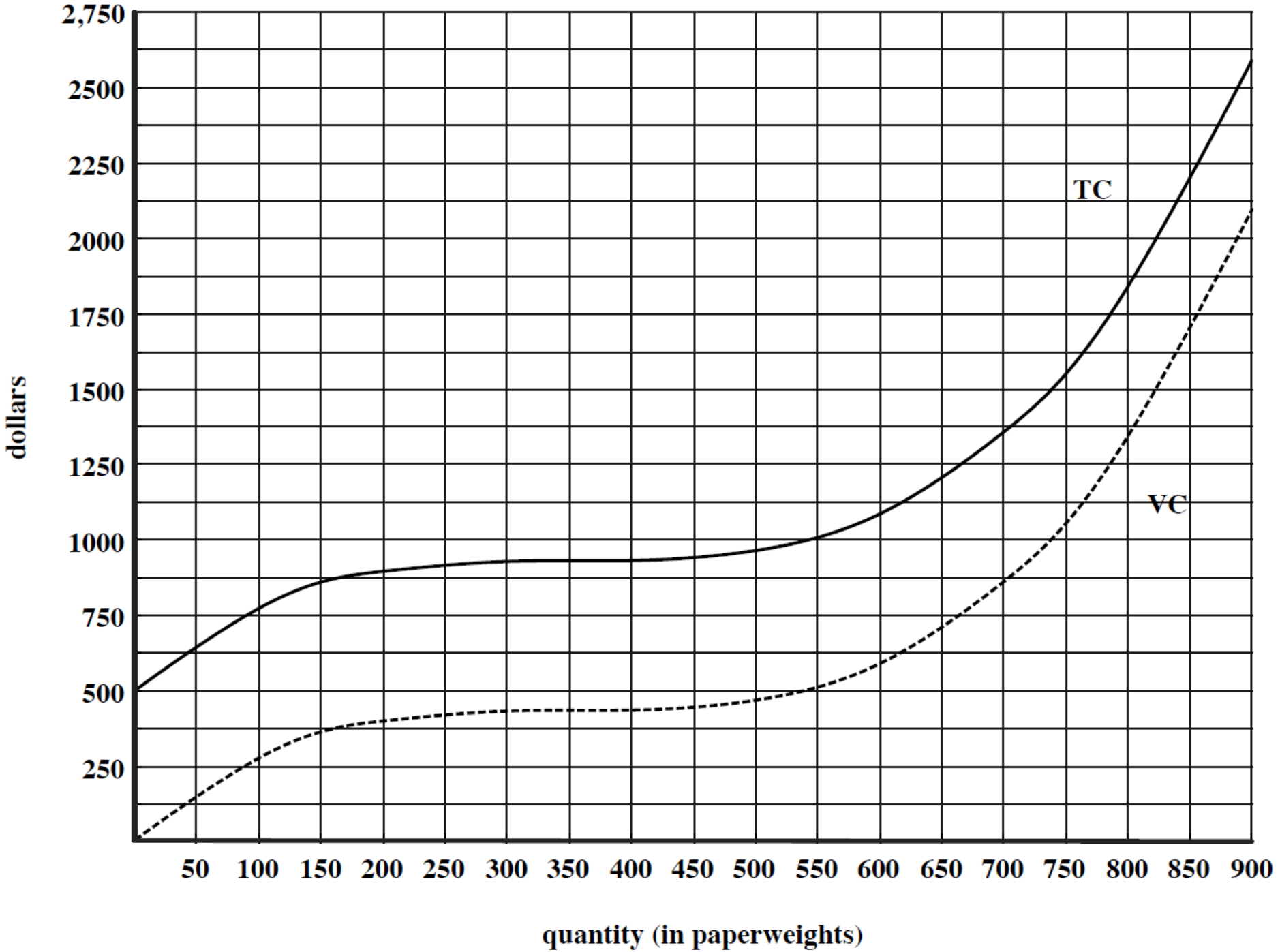
A) Draw TR. What is your profit for:
   i) q = 50?
   ii) q = 400?

B) What quantity maximizes profit?

C) What is the maximum profit?

D) What would the **MR graph** look like? Draw it with the MC, AC, AVC graphs.

Any observations?


2,750
2500
2250
2000
1750
1500
1250
1000
750
500
250
dollars
TC
VC
50
100
150
200
250
300
350
400
450
500
550
600
650
700
750
800
850
900
quantity (in paperweights)