Daily Exercise Solution

Given information:

$$TC(Q) = 400 + 4 * Q^2$$

Results:

Q	TC(Q)	AC(Q)	AC trend	MC(Q)
3	436	145.33		
4	464	116.00	AC ↓	28
5	500	100.00	AC ↓	36
9	724	80.44		
10	800	80.00	AC ↔	76
11	884	80.36	AC ↔	84
16	1424	89.00		
17	1556	91.53	AC ↑	132
18	1696	94.22	AC ↑	140

Returns to scale (roughly, change in profit):

Q	AC trend	Returns to scale
3-5	AC ↓	**Increasing** returns (larger is more profitable)
9-11	AC ↔	Constant returns
16-18	AC ↑	**Decreasing** returns (larger is less profitable)

Graphing: