Review Sheet Solutions

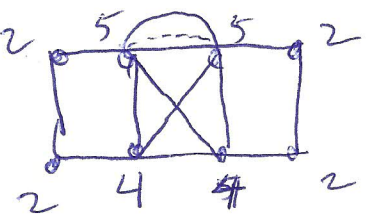
1. Starting at the customer level:
   Estimate: $20/order
   20 orders/hour
   18 hours/day
   365 days/year
   Product is $2,628,000. (Actual average in 2012 reported at 2.1 million)

2. a) Annual $FV = P(1+r)^t = 30,000(1+.08)^{40} = \$651,735.64$
   b) Monthly $FV = P(1+i)^n = 30,000(1+.08/12)^{480} = \$728,201.57$
   $i = .08/12, n = 12 \cdot 40$
   c) Continuously: $FV = Pe^{rt} = 30,000\,e^{(.08)(40)} = \$735,975.91$

3. For yield, find actual interest in a year, divide by principal
   Choose $P = \$100$, $t = 1$ year, continuous: $FV = Pe^{rt}$
   $FV = 100e^{.16} = 117.35$, $I = 117.35 - 100 = 17.35$
   rate $= 17.35/100 = 17.35\%$. The effective rate is a little higher due to compounding

4. Annuity:
   $$FV = pymt\left[\frac{(1+i)^n - 1}{i}\right] = 100\left[\frac{(1+.05/12)^{60} - 1}{.05/12}\right]$$
   $$= \$6800.61$$

5. The amortized loan is a take-home problem Pymt = 763.86

6. 

   b) Euler circuit – no – has 2 odd vertices, No odd vertices allowed in circuit
   Euler trail – yes – 2 odd vertices are allowed for Euler trail.