Seminar 12 (Suggested Solution)

1. a. probability = 1/365
   b. probability = 4/1461

2. Prob. = 9230000/255690000 = 0.36098 = 0.3610 (4 decimal places)
   by relative frequency approach.

3. Prob. = 12/20 = 0.6
   by relative frequency approach.

4. The reason is not correct. We can assign any event a probability of 0.5 only when we know for sure that it has a 50% chance of occurring. We cannot assign a probability of 0.5 to an event just because we know nothing about its occurrence.

5. Define B be the event of having a boy,
   G be the event of having a girl.

   a. S={BB, BG, GB, GG}
   b. prob(2 girls) = 1/4 = 0.25
   c. prob(1 boy and 1 girl) = 2/4 = 1/2 = 0.5
   d. classical approach

6. $$\text{Prob(copier out of service)} = \frac{\text{no. of days out of service}}{\text{total days available for use}} = \frac{51 + 43 + 2 + 31 + 13}{260 + 260 + 260 + 260 + 260} = 0.1077$$

7. a. relative frequency
   b. subjective
   c. classical
   d. subjective