1. The observations which have X1<7.5 will be classified as A and the observations for which X1>7.5 will be classified as B. X1=6 and X2=10 will be classified as A because its x1<7.5
2. Margin is half of the total slab width, thus margin is of size 2.
3. Observations 6,7,8, 9 and 10 will receive the penalties because they crossed their margin line. Support vectors are the one which receives penalty, so the support vectors in this case are 6,7,8,9 and 10.
4. Penalties:

6 : 0.25

7: 0.25

8: 1.25

9: 1.75

10: 2.25

Total penalty= 5.75

1. Yes we can increase the margin because the total margin currently is 6.75 but we can extend it to 6 units, thus we can increase the margin width carefully allowing only an increase of 0.25 .
2. Yes data is separable if we draw a slant line with an angle of about 60 degrees. The support vectors will be 4 , 8 and 9