In-class problem

The data below shows the attributes for four different tissue papers and whether they were good for your science experiment or not.

ID	Color	Acid Durability	Strength	Class
1	Yellow	7	7	bad
2	White	7	4	bad
3	Yellow	3	4	good
4	Green	1	4	good

$dist^2$ | $\frac{1}{d^2}$

10 | $\frac{1}{10}$

13 | $\frac{1}{13}$

5 | $\frac{1}{5}$

15 | $\frac{1}{15}$

1. Using a KNN classifier with k=3, predict whether the following tissue paper will be good or bad for your science experiment. *Do not worry about normalizing the data*.

5	White	4	6	?

2 bad, 1 good → bad

2. Now use weighted voting to predict if the tissue paper is good or bad. Does the answer change?

bad : $\frac{1}{10} + \frac{1}{13} = 0.177$

good : $\frac{1}{5} = 0.2$

$0.2 > 0.177$ good – answer changed