Name(s):_____

You are tasked with evaluating the performance of two different classification models.

The following table shows the predicted probability of the positive class from each of the two models.

ID	True Class	**Model 1** P(+)	**Model 2** P(+)
1	+	0.73	0.61
2	+	0.69	0.73
3	-	0.44	0.68
4	-	0.55	0.51
5	+	0.67	0.55
6	+	0.47	0.89
7	-	0.08	0.58
8	-	0.15	0.14
9	+	0.45	0.91
10	-	0.35	0.75

1) Create the confusion matrix for both models.

Model 1		Predicted	
		+	-
Actual	+	3	2
	-	1	4

Model 2		Predicted	
		+	-
Actual	+	5	0
	-	4	1

2) Calculate the accuracy of each model. Which model is better on the basis of accuracy?

Model 1:	Model 2:
Acc = 7/10 = 0.7	Acc = 6/10 = 0.6

Model 1 is better

3) Calculate the true positive rate (TPR) of each model. Which model is better on the basis of TPR?

Model 1:	Model 2:
TPR = 3/5 = 0.6	TPR = 5/5 = 1

Model 2 is better

4) Calculate the F-measure (of the positive class only) for each model. Which model is better on the basis of F-measure (of the positive class)?

Model 1:	Model 2:
Prec(+) = 3/4 = 0.75	Prec(+) = 5/9 = 0.56
Rec(+) = 3/5 = 0.6	Rec(+) = 5/5 = 1
F-score(+) = (2 * 0.75 * 0.6) / (0.75 + 0.6) = 0.667	F-score(+) = (2 * 0.56 * 1) / (0.56 + 1) = 0.71

Model 2 is better