1.

1	A	excellent	45
2	B	fair	22
3	C	good	64
4	A	excellent	28

Isolate objects 1 and 3, convert nominal to dummy and encode ordinal to integer variables
fair = 1 good = 2 excellent = 3, letter splits into 3 binary variables. Set to interval such that fair = 0, good = 1/2, excellent = 1 via $\frac{r-1}{R-1}$ where R = 3, r -> {1, 2, 3}

Identifier	A	B	C	test - 2	test - 3
1	1	0	0	3	45
3	0	0	1	2	64

Apply Euclidean Distance Formula

$$d[i\_, j\_] = \frac{\sum_{f=1}^{p} \delta_{i\,j}{}^{f}\, d_{i\,j}{}^{f}}{\sum_{f=1}^{p} \delta_{i\,j}{}^{f}}$$

In[ ]:= $$d = \frac{1 \times 1 + 1 \times 0 + 1 \times 1 + 1\left(1 - \frac{1}{2}\right) + 1\left(\frac{64-45}{64-22}\right)}{1 + 1 + 1 + 1 + 1} \text{ // N}$$

Out[ ]= 0.590476

3.

	Passed	Failed	Total
Attended	25	6	31
Skipped	8	15	23
Total	33	21	54

In[ ]:= $$\chi^2 = \sum_{i=1}^{n} \frac{(x_i - e_i)^2}{e_i}$$

We define the expected value for a cell to be equally distributed based on rows and columns such that cell 1,1 would be 33*31 / 54 = 18.94

In[ ]:= $$\chi = \sqrt{\frac{\left(25 - \left(\frac{33*31}{54}\right)\right)^2}{\left(\frac{33*31}{54}\right)} + \frac{\left(6 - \left(\frac{21*31}{54}\right)\right)^2}{\left(\frac{21*31}{54}\right)} + \frac{\left(8 - \left(\frac{33*23}{54}\right)\right)^2}{\left(\frac{33*23}{54}\right)} + \frac{\left(15 - \left(\frac{21*23}{54}\right)\right)^2}{\left(\frac{21*23}{54}\right)}} \text{ // N}$$

Out[ ]= 3.41848

In[ ]:= χ^2

Out[ ]= 11.686