

Solution to Homework 13

Task. Different marks on a 0-to-5 scale correspond to different degrees of confidence. For each possible degree corresponding to marks on a scale from 0 to 5, find the mark on a 0-to-4 scale which leads to the closest degree.

Solution. For the 0-to-5 scale, possible results are:

$$\frac{0}{5} = 0; \quad \frac{1}{5} = 0.2; \quad \frac{2}{5} = 0.4; \quad \frac{3}{5} = 0.6; \quad \frac{4}{5} = 0.8; \quad \frac{5}{5} = 1.$$

For the 0-to-4 scale, possible results are:

$$\frac{0}{4} = 0; \quad \frac{1}{4} = 0.25; \quad \frac{2}{4} = 0.5; \quad \frac{3}{4} = 0.75; \quad \frac{4}{4} = 1.$$

So:

- for the 0-to-5 mark 0, which corresponds to the value 0, the closest is the value 0 which corresponds to 0 on the 0-to-4 scale;
- for the 0-to-5 mark 1, which corresponds to the value 0.2, the closest is the value 0.25 which corresponds to 1 on the 0-to-4 scale;
- for the 0-to-5 mark 2, which corresponds to the value 0.4, the closest is the value 0.5 which corresponds to 2 on the 0-to-4 scale;
- for the 0-to-5 mark 3, which corresponds to the value 0.6, the closest is the value 0.5 which corresponds to 2 on the 0-to-4 scale;
- for the 0-to-5 mark 4, which corresponds to the value 0.8, the closest is the value 0.75 which corresponds to 3 on the 0-to-4 scale;
- for the 0-to-5 mark 5, which corresponds to the value 1, the closest is the value 1 which corresponds to 4 on the 0-to-4 scale.