

$$P(Y = 1 \mid X = 2) = \frac{0.25}{0.25+0.27+0.08} = 0.4167,$$

$$P(Y = 2 \mid X = 2) = \frac{0.27}{0.25+0.27+0.08} = 0.4500,$$

$$P(Y = 3 \mid X = 2) = \frac{0.08}{0.25+0.27+0.08} = 0.1333.$$