Example. Continued. We compute the conditional probability function of Y given $X = 1$. Note that $P[Y = y \mid X = 1] = 0$ except for $y = 2, 3$. Thus,

$$P[Y = 2 \mid X = 1] = \frac{P[X = 1, Y = 2]}{P[X = 1]} = \frac{1/8}{1/2} = 1/4;$$

$$P[Y = 3 \mid X = 1] = \frac{P[X = 1, Y = 3]}{P[X = 1]} = \frac{3/8}{1/2} = 3/4.$$

Note that once again $\sum_y P[Y = y \mid X = 1] = 1$.