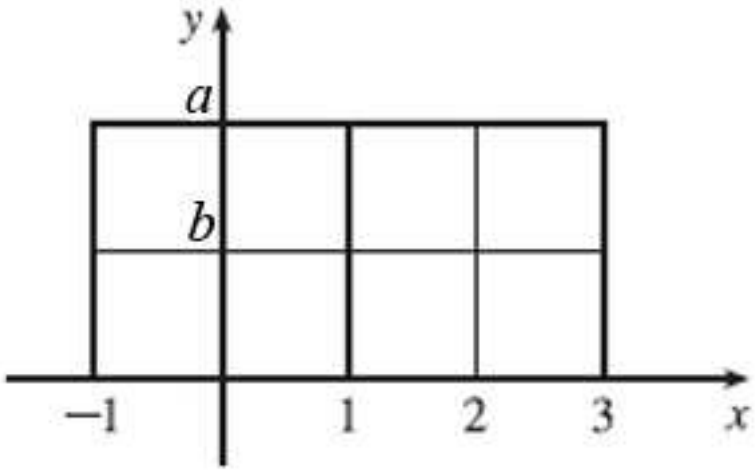
The subrectangles are shown in the figure.
Since $\Delta A = 1$ , we estimate

$$\begin{aligned}\iint_R \left(y^2 - 2x^2\right) dA &\approx \sum_{i=1}^{4} \sum_{j=1}^{2} f\left(x_{ij}^*, y_{ij}^*\right) \Delta A = f(-1,7)\,\Delta A + f(-1,8)\,\Delta A + f(0,7)\,\Delta A \\ &\quad + f(0,8)\,\Delta A + f(1,7)\,\Delta A + f(1,8)\,\Delta A + f(2,7)\,\Delta A + f(2,8)\,\Delta A \\ &= 47(1) + 62(1) + 49(1) + 64(1) + 47(1) + 62(1) + 41(1) + 56(1) = 428\end{aligned}$$




Assume $a = 8$
$b = 7$