2D Decision function Tutorial Exercise

Find the regions representing the populations Ω_1 and Ω_2 which can be separated from the following decision function:

$$d(\mathbf{x}) = 3 \cdot x_1 + 5 \cdot x_2 - 2,$$

a) When the populations are formed by 2–dimensional vectors.

b) When the populations are formed by 3–dimensional vectors.