From Weissman’s book *An illustrated theory of numbers*:

- Exercises (Section 0, pages 20–21):
  7, 10, 11, 15, 22, 23, 28, 29, 30

**Problem A.** Fix two numbers $a, b \in \mathbb{Z}$. Show that the quadratic equation

$$x^2 + ax + b = 0$$

has integer solutions $x$ if and only if the discriminant $a^2 - 4b$ is a perfect square.