## Question

$$7x^2 - 4x + 8 = 0.$$

Find the discriminant.

## Solution

For a quadratic equation of the form  $ax^2 + bx + c = 0$  with real coefficients such that  $a \neq 0$ , the expression  $D = b^2 - 4ac$  is called the discriminant. In the given problem we have a = 7, b = -4, c = 8. So

$$D = b^2 - 4ac = (-4)^2 - 4 * 7 * 8 = 16 - 224 = -208.$$

**Answer**: −208.