

Name _____

Date _____

Finding and Using the Discriminant - Step-by-Step Lesson

a. Find the value of the discriminant.

$$4p^2 + p - 2 = 0$$



Explanation:

The discriminant of a quadratic equation ($ax^2 + bx + c = 0$) is $b^2 - 4ac$. It is the expression under the radical in the quadratic formula.

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Let's now apply this to our problem: $4p^2 + p - 2 = 0$

$$b^2 - 4ac$$

$$1^2 - 4(4)(-2) \quad \text{Plug in } a = 4, b = 1, \text{ and } c = -2$$

$$1 - 4(4)(-2) \quad \text{Squares}$$

$$1 + 32 \quad \text{Multiply}$$

$$33 \quad \text{Add}$$

Answer is: 33

