

**Exercise 36**

Given the function  $p(c) = c^2 + c$ :

- (a) Evaluate  $p(-3)$ .
  - (b) Solve  $p(c) = 2$ .
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**Solution**

Evaluate the given function at  $x = -3$ .

$$p(-3) = (-3)^2 + (-3) = 9 - 3 = 6 \quad \rightarrow \quad \boxed{p(-3) = 6}$$

Plug in 2 for  $p(c)$  and solve the equation for  $c$ .

$$2 = c^2 + c$$

$$c^2 + c - 2 = 0$$

$$c = \frac{-1 \pm \sqrt{1^2 - 4(1)(-2)}}{2}$$

$$c = \frac{-1 \pm \sqrt{1+8}}{2}$$

$$c = \frac{-1 \pm 3}{2}$$

$$c = \frac{-1+3}{2} = 1 \quad \text{or} \quad c = \frac{-1-3}{2} = -2$$

$$\boxed{c = \{-2, 1\}}$$