

Find the square of the imaginary number.

11.  $3i$

12.  $i\sqrt{5}$

13.  $-i\frac{\sqrt{2}}{2}$

Determine whether the quadratic equation has real solutions or imaginary solutions by solving the equation.

14.  $15x^2 - 10 = 0$

15.  $\frac{1}{2}x^2 + 12 = 4$

16.  $5(2x^2 - 3) = 4(x^2 - 10)$

Solve the quadratic equation by taking square roots. Allow for imaginary solutions.

17.  $x^2 = -81$

18.  $x^2 + 64 = 0$

19.  $5x^2 - 4 = -8$

20.  $7x^2 + 10 = 0$