A.REI.B.4: Solving Quadratics 7

1  What is the solution when the equation $wx^2 + w = 0$ is solved for $x$, where $w$ is a positive integer?
   1) $-1$
   2) $0$
   3) $6$
   4) $\pm i$

2  What is the solution set of the equation $x^2 + 9 = 0$?
   1) $\{3, -3\}$
   2) $\{3i, -3i\}$
   3) $\{-3, -3i\}$
   4) $\{\}$

3  The solution to the equation $4x^2 + 98 = 0$ is
   1) $\pm 7$
   2) $\pm 7i$
   3) $\pm \frac{7\sqrt{2}}{2}$
   4) $\pm \frac{7i\sqrt{2}}{2}$

4  Express, in terms of $i$, the roots of the equation
   $\frac{2}{3}x^2 + 18 = 0$
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Answer Section

1 ANS: 4
\[ wx^2 + w = 0 \]
\[ wx^2 = -w \]
\[ x^2 = -1 \]
\[ x = \pm i \]

REF: 061912aii

2 ANS: 2

REF: 080234siii

3 ANS: 4
\[ 4x^2 = -98 \]
\[ x^2 = \frac{98}{4} \]
\[ x^2 = \frac{49}{2} \]
\[ x = \pm \sqrt{\frac{49}{2}} = \pm \frac{7i \sqrt{2}}{\sqrt{2}} = \pm \frac{7i \sqrt{2}}{2} \]

REF: 061707aii

4 ANS:
\[ \pm 3i \sqrt{3} \]

REF: 069041siii