A.REI.B.4: Solving Quadratics 7

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

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

3. 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: 2 REF: 080234siii

2 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}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \pm \frac{7i\sqrt{2}}{2}

REF: 061707aii

3 ANS:
\pm 3i\sqrt{3}

REF: 069041siii