Handout 2: Finding Your Roots Answers

1. Solve using the quadratic formula $x^2 - 5x + 3 = 0$.

   $x = \frac{5+\sqrt{13}}{2}$ and $x = \frac{5-\sqrt{13}}{2}$.

2. Solve using the quadratic formula $-3x^2 - 4x - 1 = 0$.

   $x = -1$ and $x = -\frac{1}{3}$.

3. Solve using the quadratic formula $10x^2 + 5x - 15 = 0$.

   $x = 1$ and $x = -\frac{3}{2}$.

4. Solve using the quadratic formula $2x^2 + 8x + 8 = 0$.

   $x = -2$.

5. Solve using the quadratic formula $\frac{1}{2}x^2 + x + 7 = 0$.

   $x = -1 + 13i$ and $x = -1 - 13i$.

6. Solve using the quadratic formula $-3x^2 + 3x - 4 = 0$.

   $x = \frac{1-11i}{3}$ and $x = \frac{1+11i}{3}$.

7. Solve using the quadratic formula $4x^2 + 12x + 9 = 0$.

   $x = -\frac{3}{2}$.

8. Solve using the quadratic formula $-2x^2 + 4x - 3 = 0$.

   $x = -\frac{-2+i\sqrt{2}}{2}$ and $x = -\frac{-2-i\sqrt{2}}{2}$.

9. How many real number or complex number roots does the following equation have?
   $5x^2 + 8x + 2 = 0$

   Two real roots.

10. How many real number or complex number roots does the following equation have?
    $-3x^2 + 6x - 13 = 0$

    Two complex roots.
