# Student Activity C
## Section 10.2: Triple the Fun on Quadratic Equations

**Directions:** For many quadratic equations, you have the choice of solving by using the factoring method, the square root method (completing the square if necessary), or the quadratic formula. Solve each of the quadratic equations by the indicated methods (if possible). If it is **not** possible to use one of the methods, say so. We've given you some hints on the first problem. For each problem, put a ☺ by the method that seemed easiest.

| **1. Solve:** $x^2 - 3x - 40 = 0$ | **2. Solve:** $x^2 + 2x - 2 = 0$ |
|---|---|
| **Solve by Factoring (if possible):**<br><br>$x^2 - 3x - 40 = 0$<br><br>$(\quad)(\quad) = 0$ | **Solve by Factoring (if possible):**<br><br>$x^2 + 2x - 2 = 0$ |
| **Solve by the Square Root Property:**<br>(completing the square if necessary)<br><br>$x^2 - 3x - 40 = 0$<br><br>$x^2 - 3x + \underline{\quad} = 40 + \underline{\quad}$ | **Solve by the Square Root Property:**<br>(completing the square if necessary)<br><br>$x^2 + 2x - 2 = 0$ |
| **Solve using the Quadratic Formula:**<br><br>$x^2 - 3x - 40 = 0$<br><br>$a = \underline{\quad}, \; b = \underline{\quad}, \; c = \underline{\quad}$ | **Solve using the Quadratic Formula:**<br><br>$x^2 + 2x - 2 = 0$ |

Now try finding these with your calculator. The first row has been done for you.
Be careful not to round values until the **end** of the problem. Use a ≈ symbol if
the calculated result is rounded. Round to two decimal places if necessary.

| Quadratic Formula Expression | Simplified Expression | Calculated Result |
|---|---|---|
| 1. $\dfrac{-(-4)\pm\sqrt{(-4)^2-4(3)(1)}}{2(3)}$ | | |
| 2. $\dfrac{-5\pm\sqrt{5^2-4(2)(-3)}}{2\cdot2}$ | | |
| 3. $\dfrac{-11\pm\sqrt{11^2-4(-2)(-6)}}{2(-2)}$ | | |
| 4. $\dfrac{-(-3,850)\pm\sqrt{(-3,850)^2-4(550)(-5,500)}}{2(550)}$ | | |
| 5. $\dfrac{-(-4.18)\pm\sqrt{(-4.18)^2-4(1.32)(-1.54)}}{2(1.32)}$ | | |

**Scrambled Answers**

| 0.5 | ≈ 0.61 | ≈ −0.33 | −3 | ≈ 8.22 |
|---|---|---|---|---|
| 1 | 3.5 | ≈ 0.33 | ≈ −1.22 | ≈ 4.89 |