The result is a straightforward way to find the necessary expression. For this, recall the double-angle formula:

\[
\sin(2\theta) = 2\sin(\theta)\cos(\theta)
\]

and the half-angle formulas:

\[
\sin^2(\theta) = \frac{1 - \cos(2\theta)}{2}
\]

\[
\cos^2(\theta) = \frac{1 + \cos(2\theta)}{2}
\]

Recall also the half-angle formula (to help remember). From these, the task is straightforward and we have:

**Hint:** This problem is relatively easy. A related example might be:

\[
\int \frac{x^{1/2} - 1}{x} \, dx
\]

\[
\int \frac{x^{1/2} + 1}{x} \, dx
\]

\[
\int \frac{x - 1}{x^2} \, dx
\]

The key formula is the definition of the double-angle formula. In other cases, you might want to show your work.

If you correctly computed the answers to the following three problems and submitted your answers to 5, you can assume that you'll be allowed to 18 points. But if you don't, you'll only get 5 points to your final grade. Your answer must be given in terms of \( x \) and you must show your work.

**Question:** Suppose that you want to solve the equation \( x^2 + 4x + 4 = 0 \). What is the solution set?