Solve $x^2 + 6x + 8 = 0$

1) This is a quadratic equation that can be solved with factorization.

2) We need two numbers that multiply to give 8: $2 \times 4 = 8$

   We need the same two numbers to add to 6: $2 + 4 = 6$

3) So the two numbers we need are 2 and 4. Now we plug them into

   the basic factorizatoin of a trinomial.

   $(x + 4)(x + 2) = 0$

4) Now apply the principle of zero products.

   $x + 4 = 0$ or $x + 2 = 0$

   $x = -4$ $x = -2$

5) Thus the two solutions are $x = -4$ or $x = -2$.