1 General Solution of the Harmonic Oscillator Equation

Give the general solution of the differential equation:

$$\frac{d^2y}{dx^2} + Ay = 0$$

Make sure that you can give the solution of this equation regardless of the geometric names of the dependent and independent variables and for either sign for the constant A.

It is NOT necessary to show any work. You may NOT, however, give a solution that has a negative number inside a square root. I am testing whether you can recognize this equation and remember its solution. This equation comes up over and over again in physics, but disguised by different symbols. I am also testing whether you recognize that the geometric character of the equation changes depending on the sign of A.