EXERCISE ONE Consider the following differential equation:

$$\frac{y'' + 6y'}{18} = -y.$$

1. Find the general solution of this differential equation. (5 points)
2. Find the particular solution y with initial conditions $y(0) = 5, y'(0) = 3$. (4 points)
   What is the limit of $y(x)$ when x goes to $+\infty$? (1 point)