# Matrix Notation

**Exercise.** The system (which we looked at earlier)

$$\dot{x} = x + 3y$$
$$\dot{y} = x - y$$

has general solution

$$x = 3c_1 e^{2t} - c_2 e^{-2t}$$
$$y = c_1 e^{2t} + c_2 e^{-2t}.$$

Re-express this using matrix notation. What are two independent basic solutions?

Try to solve these problems and then look at the solutions.

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