10. (10 pts.) Solve the system of equations

\[2x + 3y^2 = 17\]
\[x - y^2 = 1\]

\[2x + 3y^2 = 17\]
\[3x - 3y^2 = 3\]

\[5x = 20\]
\[x = 4\]

\[4 - y^2 = 1\]
\[3 - y^2 = 0\]
\[y = \pm \sqrt{3}\]

\[(4, \sqrt{3})\]
\[(4, -\sqrt{3})\]

11. (10 pts.) A population of foxes grows exponentially. There are 30 foxes initially, and the population doubles after 3 years. How many will there be after 10 years?

\[\text{Equation: } P = P_0 e^{kt}\]
\[\text{Initial condition: } P_0 = 30\]
\[\text{After 3 years: } P = 60\]

\[2 = e^{3k}\]
\[\ln 2 = 3k\]
\[\frac{1}{3} \ln 2 = k\]

\[\text{Exponent after 10 years: } \frac{\ln 2}{3}\]

\[P = 30 e^{\left(\frac{\ln 2}{3}\right) (10)}\]

Simplify optional:

\[30 e^{\frac{10 \ln 2}{3}} = 302 \text{ foxes}\]