1. Here are the general solutions to the Bernoulli equations given; c is the arbitrary integration constant that would be determined by a prescribed initial condition.

   (a) $\dfrac{1}{x^2} = -t^4 + ct^2$

   (b) $\dfrac{1}{x^2} = t + \dfrac{1}{2} + ce^{2t}$

   (c) $x(t) = \dfrac{1}{-t \ln t + ct}$

   (d) $x(t) = \dfrac{t}{t + c}$

   (e) $\dfrac{1}{x^3} = 2t^6 + ct^3$