1. Classify each of the following DEs as separable (S), linear (L), homogeneous (H), exact (E), or Bernoulli (B). [Do not solve the DE, and note that DEs may have more than one classification.]
   (i) \((3x^2 + 2y^2)dx + (4xy + 6y^2)dy = 0\)
   (ii) \(x \frac{dy}{dx} + 6y = 3x^2y^{4/3}\)
   (iii) \((x^2 - 1)y' + 2y = 0\)

2. Solve the DE \(y' = 2 \tan^2(2x + y)\)