1. Sketch the following and find the intersection points
   (a) $r = \sin(\theta); r = \cos(\theta)$
   (b) $r = 2; r = 2\cos(2\theta)$
   (c) $r = 2; r = 3 + 2\sin(\theta)$
2. SET UP an integral that can be used to find the area described:
   (a) Inside both of the circles: $r = \sin(\theta); r = \cos(\theta)$
   (b) Inside both of the curves: $r = 2; r = 2\cos(2\theta)$
   (c) Inside the limacon and outside the circle: $r = 2; r = 3 + 2\sin(\theta)$
3. Sketch the following and find the intersection points
   (a) $r = \sin(\theta); r = \sin(2\theta)$
   (b) $r = \cos(\theta); r = 1 - \cos(\theta)$
   (c) $r = \sin(3\theta); r = \cos(3\theta)$
4. SET UP an integral that can be used to find various areas - you choose:) You may set up more than one area per problem!
   (a) $r = \sin(\theta); r = \sin(2\theta)$
   (b) $r = \cos(\theta); r = 1 - \cos(\theta)$
   (c) $r = \sin(3\theta); r = \cos(3\theta)$
5. SET UP an integral that can be used to find the area described:
   (a) Inside the cardioid $r = 1 + \cos(\theta)$.
   (b) Inside the four leaved rose $r = 2\cos(2\theta)$.
   (c) Inside the three-petaled rose $r = 2\sin(3\theta)$.
   (d) Shared by the circles $r = 1$ and $r = 2\sin(\theta)$.
   (e) Shared by the cardioids $r = 2(1 + \cos(\theta))$ and $r = 2(1 - \cos(\theta))$.
   (f) Inside the circle $r = 3\cos(\theta)$ and outside the cardioid $r = (1 + \cos(\theta))$.