Problem Set 2 **Calculus 2** **Due 2/16/18**

You are encouraged to work in groups of two to four on this assignment and make a single group submission. Each problem is worth 5 points. For full credit indicate clearly how you reached your answer.

1. Use an integral to show that the area of a circle with radius r is πr^2.
2. Use an integral to find the volume of a cap with height h of a sphere with radius r, as pictured in §7.2 #33.
3. Use an integral to find the volume of the napkin ring from §7.3 #42.
4. Do §7.4 #34.

Problem Set 3 **Calculus 2** **Due 2/19/18**

You are encouraged to work in groups of two to four on this assignment and make a single group submission. Each problem is worth 5 points. For full credit indicate clearly how you reached your answer.

1. Use an integral to find the volume of a right circular cone with base of radius r and height h.
2. Use an integral to find the surface area of a right circular cone with base of radius r and height h.
3. Consider the region below $y = \frac{1}{x}$, above the x-axis, and to the right of $x = 1$. Use an integral to find the volume of the solid obtained by rotating this region around the x-axis.
4. Consider the region below $y = \frac{1}{x}$, above the x-axis, and to the right of $x = 1$. Use an integral to find the surface area of the solid obtained by rotating this region around the x-axis.