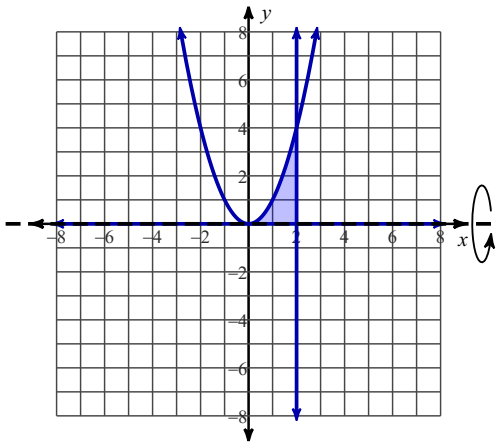
AP Calculus AB Name_____

Volume by Disks and Washers: x-axis Revolutions

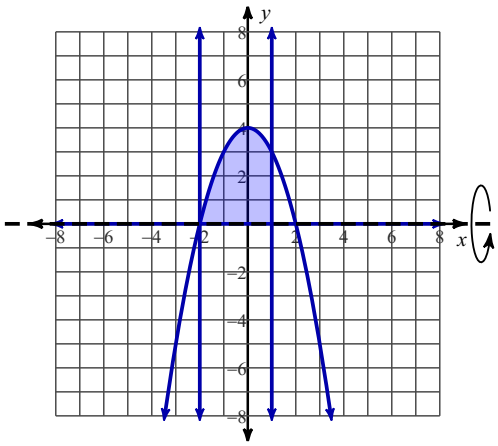
Date_____

For each problem, find the volume of the solid that results when the region enclosed by the curves is revolved about the *x*-axis.

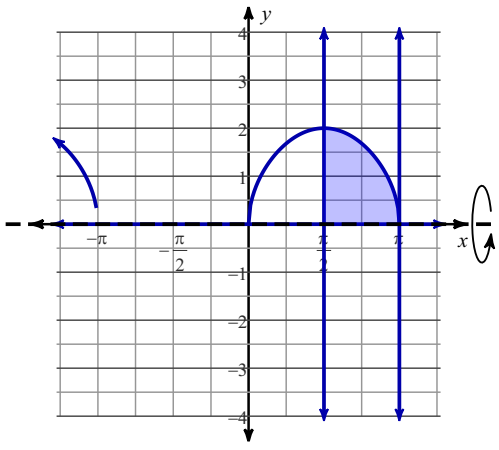
1) $y = x^2,\ y = 0,\ x = 2$



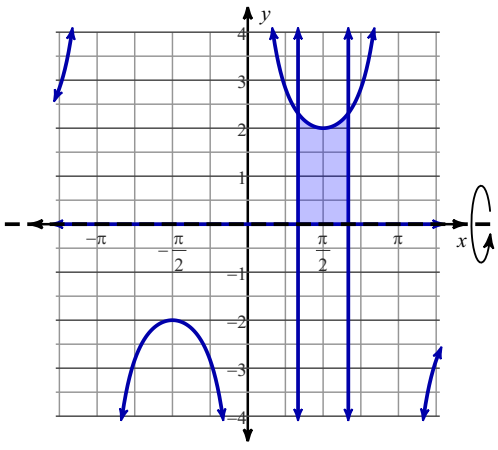
2) $y = -x^2 + 4,\ y = 0,\ x = -2,\ x = 1$



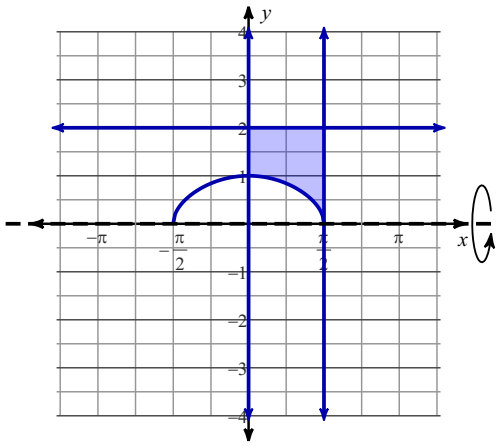
3) $y = 2\sqrt{\sin x},\ y = 0,\ x = \frac{\pi}{2},\ x = \pi$



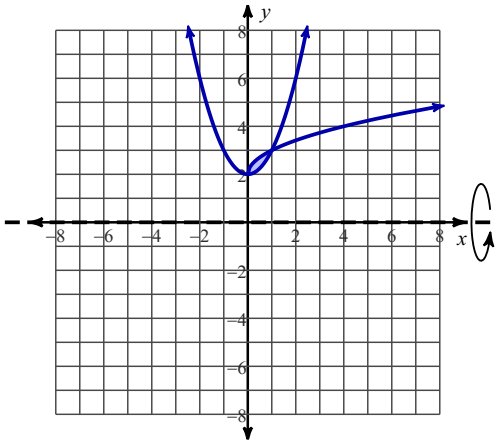
4) $y = 2\csc x,\ y = 0,\ x = \frac{\pi}{3},\ x = \frac{2\pi}{3}$



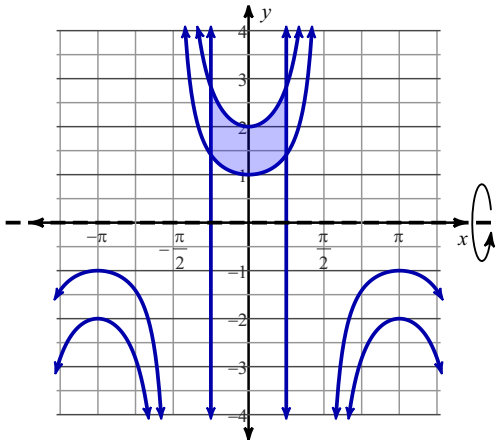
5) $y = 2,\ y = \sqrt{\cos x},\ x = 0,\ x = \dfrac{\pi}{2}$



6) $y = \sqrt{x} + 2,\ y = x^2 + 2$



7) $y = 2\sec x,\ y = \sec x,\ x = -\dfrac{\pi}{4},\ x = \dfrac{\pi}{4}$



8) $y = 2\sqrt{\cos x},\ y = \sqrt{\cos x},\ x = -\dfrac{\pi}{3},\ x = 0$