Real-World Circular Volume Problems: 8.G.C.9 **Name: _____**

 Period:

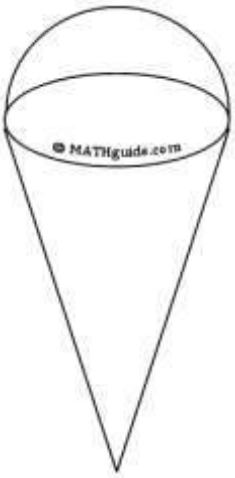
All problems require detailed work.

Calculate the volume of a cone. Use http://www.mathguide.com/cgi-bin/quizmasters/ConesV.cgi

Calculate the volume of a cylinder. Use http://www.mathguide.com/cgi-bin/quizmasters/CylindersV.cgi

Calculate the volume of a sphere. Use http://www.mathguide.com/cgi-bin/quizmasters/SpheresV.cgi

Steve goes to an ice cream shop. He orders one scoop of his favorite flavor ice cream in a cone. The cone has a height of 5 inches and a diameter of 4 inches and the ice cream is a perfect sphere with the same radius as the cone. If the ice cream melts into the cone, can the cone receive the ice cream without spilling over?



A storage tank for fluids is comprised of a cone and adjoining cylinder. They are fused together so that the two solids have a diameter of 10 feet. The cylinder has a height of 30 feet and the cone has a height of 15 feet. The tank has a drainage pipe at its base that can drain at a rate of 10 ft^3 per minute. When the tank is full of fluid, how long will it take to totally drain it?

A special part made for a large battleship consists of a cylinder with a square prism missing from its center. The cylinder has a diameter of 12 inches and height of 36 inches. The cross section of the part is shown. What is the volume of the part?