1. (4 points) Sarah flies a kite which stays at a height of 300 feet, but the wind is carrying the kite horizontally away at a rate of 25 feet per second. How quickly must she let the string out when the kite is 500 feet away from her?

2. (3 points) A man 6 feet tall walks toward a light 16 feet above the ground at a rate of 5 feet per second. How quickly is his shadow changing in length?
3. (3 points) A water tank has the shape of an inverted circular cone with base radius 2 \( m \) and height 4 \( m \). If water is being pumped into the tank at a rate of 2 \( m^3/min \), find the rate at which the water level is rising when the water is 3 \( m \) deep.