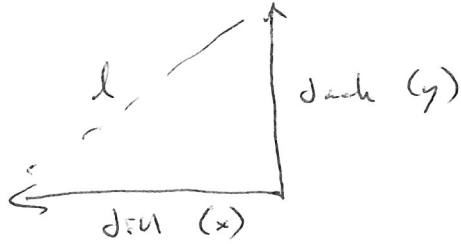


Jack and Jill are talking, not moving, on jet skis in the middle of a lake. They part company and Jack heads due north at 500 ft/min. Jill heads due west at 600 ft/min. After 1 minute, how quickly is the distance between Jack and Jill growing?



$$\frac{d}{dt} (x^2 + y^2 = l^2)$$

$$2x \frac{dx}{dt} + 2y \frac{dy}{dt} = 2l \frac{dl}{dt}$$

$$(600)(600) + (500)(500) = 781 \frac{dl}{dt}$$

$$\frac{610,000}{781} = \frac{dl}{dt} = 781 \text{ ft/min}$$

answer: _____