With built rule calculations "built in" Reute Rate Problems = more Problems of change which are related, one another, will have entries unrelated. Quantities which depend upon rates.
A stone dropped into a still pond sends out a circular ripple whose radius increases at a constant rate.

How rapidly is the area enclosed by the ripple increasing at the end of 10 s?
18. A 10-ft plank is leaning against a wall. If at a certain instant the bottom of the plank is 2 ft from the wall and is being pushed toward the wall at the rate of 6 in/s, how fast is the acute angle that the plank makes with the ground increasing?
its radius. How fast is the height of the pile increasing at the instant when the pile is 6 ft high?
Approaching the dock when 125 ft of rope is out.

If the rope is pulled through the pulley at a rate of 20 ft/min, at what rate will the boat be
accompanied? (Figure) The rope is attached to the bow of the boat at a point 10 ft below the pulley.

A boat is pulled into a dock by means of a rope attached to a pulley on the dock (see the
Figure).
(a) Crosses the highway? How fast is the distance between the car and helicopter changing at the moment the helicopter crosses the highway over the highway the car is 2 mi east of the helicopter. A police helicopter is filming due north at 100 mph and at a constant altitude of 2 mi. Below, a car is traveling west on a highway at 75 mph. At the moment the helicopter crosses over the highway the

36.
(q) How fast is the angle of inclination of the line segment from \( P(0, 0) \) changing at this instant?

(a) How fast is the distance between and the point \( P(0, 0) \) changing at this instant?

Rate of \( 4 \) units/s when \( x = 3 \).

A point \( P \) is moving along the curve whose equation is \( y = \sqrt{x} \). Suppose that \( x \) is increasing at the

\[ 0. \]