

Unit 8 Outline – Related Rates

Monday 1/6	Today's Topic: Review Final Exam
In-Class Examples: None	
Homework: None	

Tuesday 1/7	Today's Topic: Introduction to Related Rates – Use related rates to solve real-life problems. Related rate problems are at the heart of Newtonian mechanics
In-Class Examples:	
Notes Handout	
Homework: Finish Notes Examples	

Wednesday 1/8	Today's Topic: Related Rates
In-Class Examples:	
Notes Handout	
Homework: Worksheet 67	

Thursday 1/9	Today's Topic: Related Rates
In-Class Examples:	
Notes Handout	
Homework: Worksheet 68	

Friday 1/10	Today's Topic: Related Rates
In-Class Examples:	
Notes Handout	
Homework: Worksheet 69	

Monday 1/13	Today's Topic: Related Rates Quiz – Related Rates – 2 questions (triangle, circle, sphere, rectangle)
In-Class Examples:	
Notes Handout	
Homework: Worksheet 70	

Tuesday 1/14

Today's Topic: Related Rates Review

In-Class Examples: Review

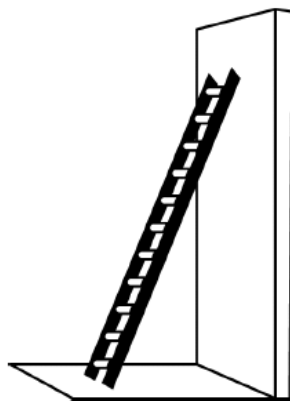
AP Multiple Choice

Functions w , x , and y are differentiable with respect to time and are related by the equation $w = x^2y$. If x is decreasing at a constant rate of 1 unit per minute and y is increasing at a constant rate of 4 units per minute, at what rate is w changing with respect to time when $x = 6$ and $y = 20$?

- (A) -384 (B) -240 (C) -96 (D) 276 (E) 384

The radius of a circle is increasing. At a certain instant, the rate of increase in the area of the circle is numerically equal to twice the rate of increase in its circumference. What is the radius of the circle at that instant?

- (A) $\frac{1}{2}$ (B) 1 (C) $\sqrt{2}$ (D) 2 (E) 4



The top of a 15-foot-long ladder rests against a vertical wall with the bottom of the ladder on level ground, as shown above. The ladder is sliding down the wall at a constant rate of 2 feet per second. At what rate, in radians per second, is the acute angle between the bottom of the ladder and the ground changing at the instant the bottom of the ladder is 9 feet from the base of the wall?

- (A) $-\frac{2}{9}$ (B) $-\frac{1}{6}$ (C) $-\frac{2}{25}$ (D) $\frac{2}{25}$ (E) $\frac{1}{9}$

Homework: None

Wednesday 1/15

Related Rates Exam

In-Class Examples: None

Homework: None