

MATH 150

Today

1. 3.5: Related Rates
2. Homefun

Goals:

1. Solve related rates problems (Understand how to connect rates that are related and use the chain rule/implicit differentiation to solve related rates problems)

Where is today's material used?

1. General problem solving (translating word problems into mathematics)
2. Physics (e.g., determining the rate of change in the distance between two objects moving in different directions)

3.5 Related Rates

1. The structure of a related rates problem (related variables that both depend on time)
 - (a) Translate into mathematics
 - (b) Identify given information
 - (c) Identify the goal
 - (d) Model the situation mathematically (i.e., write an equation)
 - (e) Solve (differentiate with respect to time t)
 - (f) Translate back
2. Surface area and volume formulas
3. Similar triangles
4. Examples. p. 281: 37, 39, 46, 47, 49, 52, 57, 60

Next Time

1. Watch 4.1-4: Algebra [20 min]