

4 Related Rates Problems to get you started!

1. Assume the bottom of a 16 ft ladder is pulled out at a rate of 3 ft/s. Find the rate that the top of the ladder is moving when it is 10 ft from the ground.
2. At a given moment, a plane passes directly over a radar station at an altitude of 6 miles.
 - a. If the speed of the plane is 500 mph, how fast is the distance between the plane and the station changing a half an hour later?
 - b. How fast is the distance between the plane and the station changing when the plane is directly above the station?
3. A conical tank has a height of 3 m and a radius of 2 m. Water flows into the tank at a rate of 2 cubic m per min. How fast is the height changing when the height is 2m?
4. A spherical balloon is being inflated at a rate of 20 cubic cm per sec. How fast is the radius of the balloon increasing at the moment that the radius is 10 cm?

4 Related Rates Problems to get you started!

1. Assume the bottom of a 16 ft ladder is pulled out at a rate of 3 ft/s. Find the rate that the top of the ladder is moving when it is 10 ft from the ground.
2. At a given moment, a plane passes directly over a radar station at an altitude of 6 miles.
 - a. If the speed of the plane is 500 mph, how fast is the distance between the plane and the station changing a half an hour later?
 - b. How fast is the distance between the plane and the station changing when the plane is directly above the station?
3. A conical tank has a height of 3 m and a radius of 2 m. Water flows into the tank at a rate of 2 cubic m per min. How fast is the height changing when the height is 2m?
4. A spherical balloon is being inflated at a rate of 20 cubic cm per sec. How fast is the radius of the balloon increasing at the moment that the radius is 10 cm?

4 Related Rates Problems to get you started!

1. Assume the bottom of a 16 ft ladder is pulled out at a rate of 3 ft/s. Find the rate that the top of the ladder is moving when it is 10 ft from the ground.
2. At a given moment, a plane passes directly over a radar station at an altitude of 6 miles.
 - a. If the speed of the plane is 500 mph, how fast is the distance between the plane and the station changing a half an hour later?
 - b. How fast is the distance between the plane and the station changing when the plane is directly above the station?
3. A conical tank has a height of 3 m and a radius of 2 m. Water flows into the tank at a rate of 2 cubic m per min. How fast is the height changing when the height is 2m?
4. A spherical balloon is being inflated at a rate of 20 cubic cm per sec. How fast is the radius of the balloon increasing at the moment that the radius is 10 cm?

Answers

1. -3.747 ft/s
2. -
 - a. 499.86mph
 - b. 0 mph
3. 0.358 m/min
4. $\frac{1}{20\pi}$ cm/sec

Answers

1. -3.747 ft/s
2. -
 - a. 499.86mph
 - b. 0 mph
3. 0.358 m/min
4. $\frac{1}{20\pi}$ cm/sec

Answers

1. -3.747 ft/s
2. -
 - a. 499.86mph
 - b. 0 mph
3. 0.358 m/min
4. $\frac{1}{20\pi}$ cm/sec