This is a writing assignment. WebAssign cannot give you feedback on your writing. You will have to get feedback from your instructor, your LA, or your peers.

After each writing task you will have a multiple-select WebAssign question with a new scoring feature.

You lose half a point for each wrong attempt.

Get feedback first!

Read today’s Notes and Learning Goals
Refer to these Writing Tips as needed.
Get feedback on your writing before you try the WebAssign questions.
Watch out for number 5. It's harder.
A man of height 1.9 meters walks away from a 5-meter lamppost at a speed of 2.1 m/s.

**Part 1.** Write one sentence that clearly describes what \(x\) measures. Click here for tips on how to do this. If possible, get feedback on your writing before you move on to Part 2.

**Part 2.** Which of the following sentences are accurate descriptions of what \(x\) measures? Select all that apply. **Warning.** This is a two point question. You get 4 tries, but you lose 1/2 point for each failed attempt.

- \(x\) is the position of the man.
- \(x\) is the distance from the light to the man.
- \(x\) is the distance from the man's feet to a spot on the ground directly below the light.

**Part 3.** Write one sentence that clearly describes what \(y\) measures. Get feedback.

**Part 4.** Which of the following sentences are accurate descriptions of what \(y\) measures? Select all that apply. **Warning.** This is a two point question. You get 4 tries, but you lose 1/2 point for each failed attempt.

- \(y\) is the distance from the man's feet to the tip of his shadow.
- \(y\) is the position of the shadow.
- \(y\) is the length of the man's shadow.
A police car traveling south toward Sioux Falls at 160 km/h pursues a truck traveling east away from Sioux Falls, Iowa, at 140 km/h

**Part 1.** Write one sentence that clearly describes what $x$ measures. [Click here for tips](https://www.webassign.net/v4cgi/assignments/preview.tpl?aid=10862407&deployment=16439849&UserPass=78cd6de19d27731207184138c3bc8d8e) on how to do this. If possible, get feedback on your writing before you move on to Part 2.

**Part 2.** Which of the following sentences are accurate descriptions of what $x$ measures? Select all that apply.

- $x$ is the distance from the truck to the intersection.
- $x$ is 140 km/hr.
- $x$ is the distance to the truck

**Warning.** This is a two point question. You get 4 tries, but you **lose 1/2 point** for each failed attempt.

**Part 3.** Write one sentence that clearly describes what $y$ measures. Get feedback.

**Part 4.** Which of the following sentences are accurate descriptions of what $y$ measures? Select all that apply.

- $y$ is the position of the police car.
- $y$ is the police car.
- $y$ is the distance from the intersection to the police car.

**Warning.** This is a two point question. You get 4 tries, but you **lose 1/2 point** for each failed attempt.
Water is poured into a conical tank at a constant rate. The tank is 12 feet deep and has a radius of 4 feet at the top as shown. The shaded region is the water. Its volume is

\[ V = \frac{1}{3} \pi r^2 h \]

For each variable in the equation above, write a one sentence description of what it measures. Get feedback. Then answer the questions below.

**Warning.** These are two point questions. You get 4 tries, but you **lose 1/2 point** for each failed attempt.

Which of the following are accurate descriptions of \( V \)? Select all that apply.
- [ ] Volume of the tank.
- [ ] Volume of air in the tank.
- [ ] Volume.
- [x] Volume of water in the tank.

Which of the following are accurate descriptions of \( h \)? Select all that apply.
- [x] Height.
- [x] Vertical distance from the tip of the cone to the surface of the water.
- [ ] Feet of water.
- [ ] Depth of the water.
- [ ] Depth of the tank.
A hemispherical water tank is being filled with water at a constant rate.

The volume of the filled portion, as shown in the cross sectional diagram, is

\[ V = \pi h^2 \left( R - \frac{h}{3} \right) \]

For each variable in the equation above, including \( R \), write a one sentence description of what it measures. Get feedback. Then answer the questions below. As usual, you lose 1/2 point for each failed attempt.

Which of the following are accurate descriptions of \( V \)? Select all that apply.

- Volume of water in the tank.
- Volume of air in the tank.
- Volume.
- Volume of the tank.

Which of the following are accurate descriptions of \( h \)? Select all that apply.

- Depth of the tank.
- Vertical distance from the tank bottom to the water surface.
- Height.
- Depth of the water.

Which of the following are accurate descriptions of \( R \)? Select all that apply.

- Feet across.
- Radius.
- Radius of the water.
- Radius of the tank.
An airplane is flying level at an altitude of 3000 feet and a speed of 130 mph. It is about to pass over a radar station on the ground, as shown below. The dashed line represents the line-of-sight from an operator in the radar station to the airplane.

Write down sentences that describe $x$ and $\theta$. Then answer the usual questions. Be careful; these are harder.

Which of the following are accurate descriptions of $x$? Select all that apply.

- Position of the airplane.
- 3000 feet.
- Distance from the station to a point directly below the airplane.
- Distance from the station to the airplane.

Which of the following are accurate descriptions of $\frac{dx}{dt}$? Select all that apply.

- Negative speed of the airplane.
- Rate of change of $x$
- Speed of the airplane.
- Speed of $x$
- Miles per hour

Which of the following are accurate descriptions of $\theta$? Select all that apply.

- The angle between the ground and the line-of-sight from the operator to the airplane.
- The angle of the airplane.
- The angle between the ground and a line connecting the station and the airplane.
- The angle of elevation from the observer to the airplane.
Which graded: Last

Assignment Previewer

Save Work
After due date
Question Score
Assignment Score
Publish Essay Scores
Key
Question Part Score
Solution
Mark
Help/Hints
Response