

A Foggy Morning Meeting ¹

Answer Key

Instructions

Compare your answers and ideas to those listed in this key.

Discuss the answers and any differences of opinions with your friends and the instructor.

Your ideas are important and can help improve this exercise. Therefore, please don't mark additional answers or change your answers. Your answers will be studied along with many other people's answers to improve this exercise.

Question A

- T 1. If Bob doesn't expect high-speed traffic, he will be less alert to this possibility.
- T 2. SMV signs are coated with reflective material. In the beams of headlights the signs shine brightly even in darkness and fog.
- T 3. The round baler is so high and wide that the tractor and its turn signals cannot be seen from behind.
- T 4. Bob may be less alert to what is going on behind him because he is concentrating on trying to spot the driveway to his farm.
- T 5. Children fighting and yelling can be very distracting for the driver.
- T 6. One-mile/hour (mph) is 1.47 feet/second (ft/sec). At 65 miles per hour Sara's car is traveling at 1.47×65 or about 95 ft/sec. With a visibility of only 100 ft, by the time she sees the baler she will have only about 1.1 seconds to stop. It will take her from 1/2 to 3/4 of a second to hit the brakes. Then, even on a dry pavement with good brakes and tires, it will take another 280 ft to stop. By that time her car will have run into the baler. She needs a total of 328 ft to stop (47.5 ft for reaction time + 280 ft for stopping distance).
- F 7. There is no reason to believe that water is standing on the road. It hasn't rained for two weeks (see the first paragraph on page 2). Hydroplaning usually requires a quarter of an inch to an inch of

¹ This answer key should be used with the exercise problem booklet with the same name. The views expressed in this document are those of the authors and not necessarily those of CDC/NIOSH or the US Government.

water on the road depending on the road surface and the condition of the car's tires.

Question B

- F 8. She doesn't have time! She is traveling too fast and is too close to the baler. See the information for Questions A, item 6.
- F 9. Dangerous! There are wooden plank fences and large trees along the left-hand side of the road (see Figure 1). The car could strike the fence and the trees. Sara and her children could be hurt or killed.
- F 10. Dangerous! There are also wooden plank fences and large trees along the right-hand side of the road (see Figure 1). Sara and her children could be hurt or killed.
- F 11. Dangerous! There could be another oncoming vehicle heading south. Sara could run head-on into this vehicle. If so, she and her children would probably be killed, especially if the oncoming vehicle were a large car or truck.
- T 12. The only sure way Sara could have avoided a collision was to slow down to a speed of 30 to 40 mph and had the headlights on. At 30 mph she would have been traveling at 44 ft/sec. That would have given her 2.7 seconds to slow down to 12 mph when she saw the baler 100 ft ahead. With her headlights on she probably could have seen the baler more than 100 ft away because of its reflective SMV sign.

Question C

- T 13. Shutting off the ignition switch will help prevent electrical shorts and sparks that could start a fire. This simple action can often save lives, especially when people are trapped inside a car or other motor vehicle.
- T 14. Bob doesn't know for sure that the kids aren't hurt. Because it's in the field, the car is in no danger of being struck by another vehicle. If the kids get out they could wander around and get into the road and be hit. Calling 911 immediately and getting help is critical. If

Sara is severely injured, she may die if it takes longer than an hour to get her to a hospital emergency department. (This critical hour is often called the victim's "golden hour.")

- F 15. Risky! See the answer to item 12 above. Having the kids get out of the car would be a good idea if Bob thought the car was in a dangerous position where it could fall into a creek, be struck by another vehicle, or catch on fire. None of these risks are present.
- F 16. Not a good idea! The child might refuse to leave his mom, brother, and sister. He wouldn't know where the telephone was. No one is at home in Bob's house to help the boy. Even if he found the telephone, the boy could be too frightened to know what to say or do.
- F 17. Bob should stay with Sara and her kids, but not until after he calls 911 and reports the crash. Otherwise the rescue squad's arrival will be delayed and Sara might die.
- F 18. This would hurt Sara and might kill her. Even well trained EMTs and paramedics don't remove objects that have speared a victim. Only hospital emergency departments and surgical units are equipped to remove such objects.

Question D

- F 19. This is not practical. Bob would have to mount the lights on the baler and then run wires from his tractor back to the baler. He would have to hook and unhook the wires each time he used the baler. This is why highly reflective and visible SMV signs are used on farm machinery like balers and wagons.
- F 20. Not possible! Sara's car is approaching at more than 95 ft/sec. In the second or so Bob saw or heard Sara coming, he couldn't move the tractor out of the way fast enough. However, if Sara's car lights were on, Bob could have seen the lights reflected in the fog, and known not to turn into his driveway until the car had passed.
- F 21. Bob could have tried to listen, but he probably would not have heard Sara's car approaching until it was right on top of him. Tractors with 80 hp engines traveling at 12 mph while pulling a

load make enough noise to drown out the sound of approaching cars, especially a car approaching from behind a large baler.

- T 22. An escort vehicle is a good idea! It could be a car or a truck following a couple of hundred feet behind the tractor and baler. With its flashers and headlights on, the escort vehicle would have been visible in time for Sara to slow down and avoid a collision. The escort vehicle driver could also blow his horn and flash the high and low beam headlights off and on to alert Bob that a car was coming.
- T 23. Waiting for an hour or so until the fog lifted would have been the easiest and safest option.
- T 24. Correct! If Sara had been traveling at or below the speed limit, and if she had slowed down when she hit the fog, she would have had more time to stop after seeing the baler, especially if she had turned on the car's headlights. The collision could have been prevented.
- T 25. With the headlights on, the reflective material on the SMV sign would have been visible much sooner; giving Sara more time to slow down and avoid a collision.
- F 26. She couldn't see the turn signals even if Bob used them because the baler was in the way.
- F 27. Having the two boys in front might not have helped that much. If they were scrapping and yelling it could have been even more distracting. If Sara's car had a passenger side air bag, the children should not have been sitting in the front seat.

When you have finished discussing these answers and the exercise questions, please fill out the questionnaire attached to the answer sheet. Leave your completed questionnaire attached to your answer sheet and give it to the instructor.

Ask for a copy of "Facts About Tractor/Motor Vehicle Collisions." This document includes a few newspaper stories and a fatality report about tractor and motor vehicle crashes. It also explains when, where, and how these collisions occur.