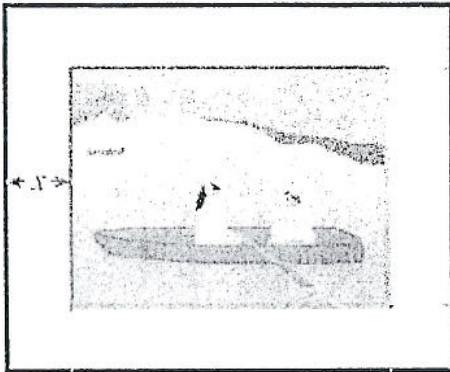


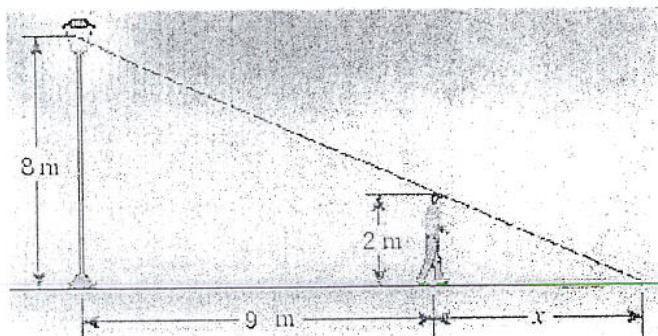
Math Challenge 2007 Pony Express

1. Jack invests \$2,000 at a certain annual interest rate, and he invests another \$3,000 at an annual rate that is one-half percent higher. If he receives a total of \$265 interest in one year, at what rate is the \$2,000 invested?
2. Al paints with watercolors on a sheet of paper 25 in. wide by 15 in. high. He then places this sheet on a mat so that a uniformly wide strip of the mat shows all around the picture. The perimeter of the mat is 112 in. How wide is the strip of the mat showing around the picture?



3. A jeweler has five rings, each weighing 18 g, made of an alloy of 20% silver and 80% gold. He decides to melt down the rings and add enough silver to reduce the gold content to 60%. How much silver should he add?

4. A man is walking away from a lamppost with a light source 8 m above the ground. The man is 2 m tall. How long is the man's shadow when he is 9 m from the lamppost?



5. Stan and Hilda can mow the lawn in 80 min if they work together. If Hilda works twice as fast as Stan, how long does it take Stan to mow the lawn alone?
6. Six horses are entered in a race. You randomly predict a particular order for the horses to complete the race. What is the probability that your prediction is correct? Please give the answer as a proper fraction.

