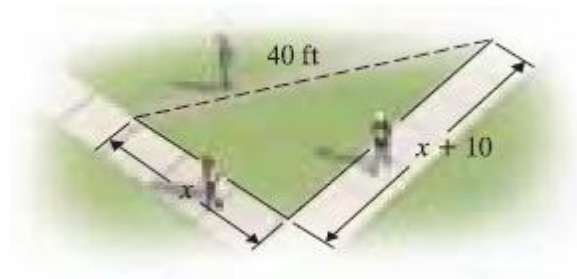


1. Given the diagram, approximate to the nearest foot how many feet of walking distance a person saves by cutting across the lawn instead of walking on the sidewalk.



- In your own words, paraphrase what the problem is asking you to do.
- Identify the facts.
- Clearly define your variables.
- Solve.
- Write your answer in a complete sentence.

2. An entry to the Peach Festival Poster Contest must be rectangular and have an area of 1200 square inches. Furthermore, its length must be 20 inches longer than its width. Find the dimensions each entry must have.

- In your own words, paraphrase what the problem is asking you to do.
- Identify the facts.
- Clearly define your variables.
- Draw a picture.
- Solve.
- Answer the question in a complete sentence.

3. The heaviest reported door in the world is the 708.6 ton radiation shield door in the National Institute for Fusion Science at Toki, Japan. If the height of the door is 1.1 feet longer than its width, and its front area (neglecting depth) is 1439.9 square feet, find its width and height.

- In your own words, paraphrase what the problem is asking you to do.
- Identify the facts.
- Clearly define your variables.
- Draw a picture.
- Solve.
- Answer the question in a complete sentence.

4. A ball is thrown downward from the top of a 180-foot building with an initial velocity of 20 feet per second. The height of the ball h after t seconds is $h = -16t^2 - 20t + 180$. How long after the ball is thrown will it strike the ground? Round the result to the nearest tenth of a second.

- In your own words, paraphrase what the problem is asking you to do.
- Identify the facts.
- Clearly define your variables.
- Draw a picture.
- Solve.
- Answer the question in a complete sentence.