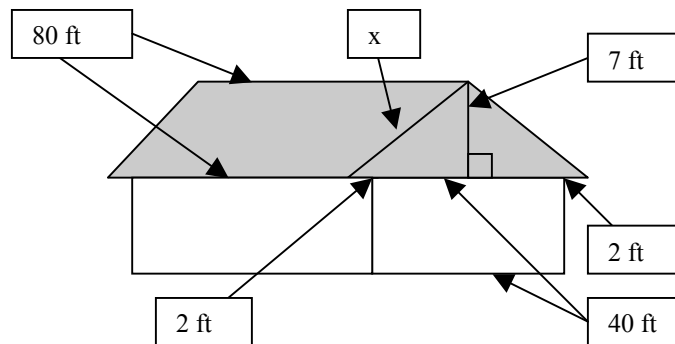


Open Response Math (7th and 8th graders)
Designed by Nancy Champlin, Caren Enderle, and Holly King

Core Content: 2.1.5 U.S. Customary, 2.2.5 Using formulas to find area and perimeter, and 2.2.7 Pythagorean theorem

Question: Bob the Builder is constructing a building with the given dimensions:



The bank requires an estimate for all building materials prior to issuing the loan to build.

- Use the Pythagorean theorem to calculate the measure of the side labeled "x".
- Use the dimensions in part a and the diagram above to determine the area of the entire roof.
- One pack of shingles costs \$9.65 and will cover nine square feet. How much will Bob spend to purchase all the shingles to cover his roof? (When calculating this answer, round both numbers to the nearest whole number.)