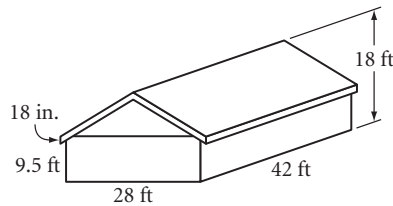


Lesson 10.3 • Applications of the Pythagorean Theorem

Name _____ Period _____ Date _____

1. A 20 ft ladder reaches a window 18 ft high. How far is the foot of the ladder from the base of the building? How far must the foot of the ladder be moved to lower the top of the ladder by 2 ft?
2. Robin and Dovey have four pet pigeons that they train to race. They release the birds at Robin's house and then drive to Dovey's to collect them. To drive from Robin's to Dovey's, because of one-way streets, they go 3.1 km north, turn right and go 1.7 km east, turn left and go 2.3 km north, turn right and go 0.9 km east, turn left and go 1.2 km north, turn left and go 4.1 km west, and finally turn left and go 0.4 km south. How far do the pigeons have to fly to go directly from Robin's house to Dovey's house?
3. Hans needs to paint the 18 in.-wide trim around the roof eaves and gable ends of his house with 2 coats of paint. A quart can of paint covers 175 ft^2 and costs \$9.75. A gallon can of paint costs \$27.95. How much paint should Hans buy? Explain.



4. What are the dimensions of the largest 30° - 60° - 90° triangle that will fit inside a 45° - 45° - 90° triangle with leg length 14 in.? Sketch your solution.