

Real-Life Application: When Will I Ever Use This?

For use with pages 551–557

Modular Homes

For many families, affordable housing is difficult to find. One option is a modular home. A modular home is built in pieces in a factory, transported to the new address, and assembled there. Once it arrives, it requires finish work such as attaching moldings, sealing seams, and final painting. It is more affordable than a home built by contractors at the home site and can come in larger sizes than mobile homes since mobile homes are limited by what can safely be towed on the highway.

Roof pitch is a measure of the slope of the roof. Modular homes have a standard roof pitch of 6/12 or 12/12. The first number is the vertical change and the second number is the horizontal change. For example, a 6/12 pitch is a roof that has 6 feet of vertical rise for every 12 feet of horizontal distance.

In Exercises 1–6, use the following information.

You are purchasing a new modular home and want to be sure that there is plenty of attic space for storage and enough space to put an office in the attic at a later date. You can choose from the standard roof pitch available or other pitches.

1. Draw a right triangle that represents the 12/12 pitch.
2. What is the angle of pitch of the 12/12 roof?
3. Consider a pitch angle of 30° . With a base of 12, what is the vertical rise?
4. Consider a pitch angle of 60° . With a base of 12, what is the vertical rise?
5. From Exercises 2–4, which pitch angle gives the most headroom in the attic?
6. You are concerned about being able to safely climb onto the roof in the event that repairs are needed. A roof with an 8/12 pitch is about the steepest roof that can be safely climbed without roofing and safety equipment. After considering the amount of headroom in the attic and the safety in climbing the roof, what roof pitch should you choose?