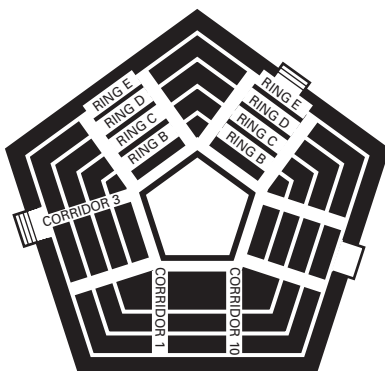


Real-Life Application: When Will I Ever Use This?

For use with pages 51–58

The Pentagon

The Pentagon in Washington, D.C. is the headquarters for the Department of Defense, and is one of the world's largest office buildings. It has three times the floor space of the Empire State Building in New York City. Although it was completed on January 15, 1943, it is still thought of as one of the most efficient office buildings in the world. It is a regular pentagon, which means that it has five congruent sides. The building consists of five concentric rings with ten spokelike corridors connecting each ring. It has 17.5 miles of corridors, but it only takes seven minutes to walk between any two points in the building. The length of each outer wall is 921 feet. It has 5 floors and a height of 77 feet 3.5 inches. You and your family travel to Washington, D.C. and decide to tour The Pentagon. Tours take approximately 90 minutes and require about a mile of walking.



1. Will you get to walk around all five floors during your visit?
(1 mile = 5280 feet)
2. Using the fact that distance equals rate times time, determine if you are walking fast or slow during the tour. The average walking speed for humans is about 3 feet per second.
3. The Pentagon building and inner courtyard (a smaller pentagon at the center of The Pentagon) cover 34 acres of land. The inner courtyard covers 217,800 square feet. How many square feet does The Pentagon cover?
(1 acre = 43,560 square feet)
4. The Pentagon has 3,700,000 square feet of usable floor space, and the approximate cost of the building was \$49.6 million. What was the cost per square foot?