

1. Tammy is estimating how much she should charge for painting 148 rooms in a new motel with one coat of base paint and one coat of finishing paint. The four walls and the ceiling of each room must be painted. Each room measures 14 ft by 16 ft by 10 ft high.
 - a. Calculate the total area of all the surfaces to be painted with each coat. Ignore doors and windows.

 - b. One gallon of base paint covers 500 square feet. One gallon of finishing paint covers 250 square feet. How many gallons of each will Tammy need for the job?

2. Rashad wants to wallpaper the four walls of his bedroom. The room is rectangular and measures 11 feet by 13 feet. The ceiling is 10 feet high. A roll of wallpaper at the store is 2.5 feet wide and 50 feet long. How many rolls should he buy? (Wallpaper is hung from ceiling to floor. Ignore doors and windows.)



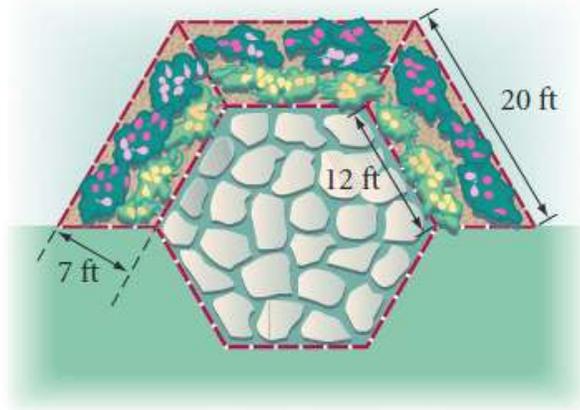
3. It takes 65,000 solar cells, each 1.25 in. by 2.75 in., to power the Helios Prototype, shown below. How much surface area, in square feet, must be covered with the cells? The cells on Helios are 18% efficient. Suppose they were only 12% efficient, like solar cells used in homes. How much more surface area would need to be covered to deliver the same amount of power?



4. Harold works at a state park. He needs to seal the redwood deck at the information center to protect the wood. He measures the deck and finds that it is a kite with diagonals 40 feet and 70 feet. Each gallon of sealant covers 400 square feet, and the sealant needs to be applied every six months. How many gallon containers should he buy to protect the deck for the next three years?

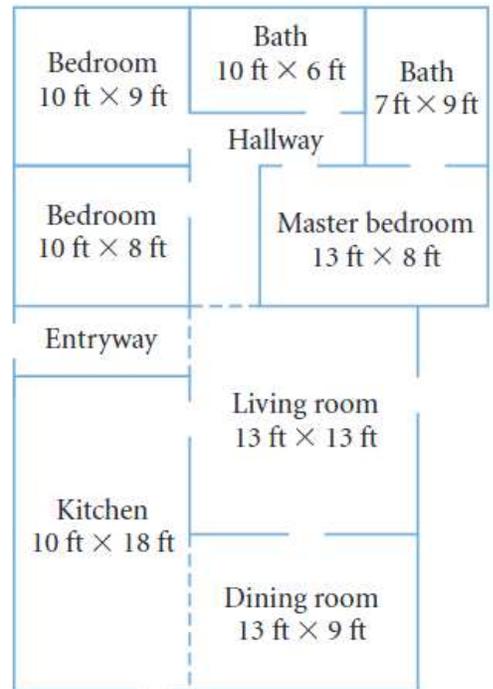


5. A landscape architect is designing three trapezoidal flowerbeds to wrap around three sides of a hexagonal flagstone patio, as shown. What is the area of the entire flowerbed? The landscape architect’s fee is \$100 plus \$5 per square foot. What will the flowerbed cost?



Refer to the floor plan at right for #6 & #7.

6. Dareen’s family is ready to have wall-to-wall carpeting installed. The carpeting they chose costs \$14 per square yard, the padding \$3 per square yard, and the installation \$3 per square yard. What will it cost them to carpet the three bedrooms and the hallway shown?



7. Dareen’s family now wants to install 1-foot-square terra-cotta tiles in the entryway and kitchen, and 4-inch-square blue tiles on each bathroom floor. The terra-cotta tiles cost \$5 each, and the bathroom tiles cost 45¢ each. How many of each kind will they need? What will all the tiles cost?