



February 2000

Activity 3: Fencing the Yard

A couple is planning to erect a fence on three sides of their property. Figure 1 shows the shape of their property and provides the dimensions of the three sides they want to fence.

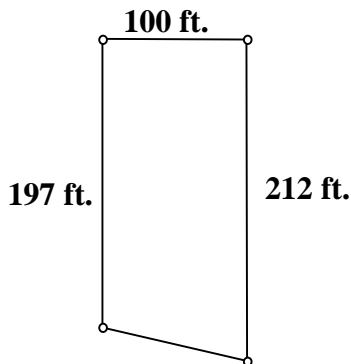


Figure 1. The couple's property, with the dimensions of the sides to be fenced.

The couple can purchase the fencing they have chosen in standard eight-foot lengths that are six feet high. They can also use a catalog to custom-order shorter lengths of this fencing. The manufacturer of the fencing materials recommends using 4 in. x 4 in. treated lumber 10 ft. long for the fence posts and 6 in. x 6 in. treated lumber 10 ft. long for the corner posts.

In their design, the couple plans to use as many eight-foot standard pieces as possible to keep costs to a minimum, but they want to maintain symmetry so that the fencing looks good.

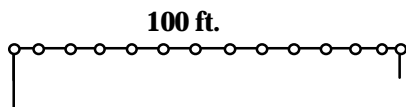


Figure 2. Example of the symmetry the couple wants.

To determine the number of standard 8-ft. sections they need, the couple divided the length of each side of the lot by 8. When they divided the 100-foot side by 8, they found they would need 12 eight-foot sections and 1 four-foot section. To be symmetrical, the fence has to be constructed with equal amounts on each end of the fencing along the 100-foot length. Because 2-foot sections are not available in the catalogue and to maintain

symmetry on the 100-foot side, the couple decides to use 11 8-foot sections and 2 6-foot sections.

If they have a budget of \$5500 for the fencing, which of the designs can the couple buy? Use the information in the tables to help you make your determination.

Description		Standard	Price	Custom	Price
Solid	1 x 4 Red Cedar	6 ft. x 8 ft..	\$76.50	6 ft. x 6 ft.	\$60.00
Peek-A-Boo	1 x 4 Red Cedar	6 ft. x 8 ft..	\$62.25	6 ft. x 6 ft.	\$48.75
Board by Board	1 x 4 Red Cedar	6 ft. x 8 ft..	\$85.00	6 ft. x 6 ft.	\$65.50
Basket Weave	1 x 4 Red Cedar	6 ft. x 8 ft..	\$70.00	6 ft. x 6 ft.	\$55.50
Basket Weave with Topper		6 ft. x 8 ft..	\$88.00	6 ft. x 6 ft.	\$69.50
4 in. x 4 in. treated lumber		10 ft.	\$10.89		
6 in. x 6 in. treated lumber		10 ft.	\$23.60		

Description		Custom	Price	Custom	Price
Solid	1 x 4 Red Cedar	6 ft. x 5 ft.	\$49.50	6 ft. x 4 ft.	\$40.00
Peek-A-Boo	1 x 4 Red Cedar	6 ft. x 5 ft.	\$40.00	6 ft. x 4 ft.	\$33.50
Board by Board	1 x 4 Red Cedar	6 ft. x 5 ft.	\$55.50	6 ft. x 4 ft.	\$45.50
Basket Weave	1 x 4 Red Cedar	6 ft. x 5 ft.	\$46.50	6 ft. x 4 ft.	\$38.00
Basket Weave with Topper		6 ft. x 5 ft.	\$60.00	6 ft. x 4 ft.	\$48.00

