

$$\begin{array}{ccc} \$3000 & \text{VS} & \$2000 \\ \text{STEREO} & & \text{LAPTOP} \end{array}$$

Hmm, that's not as good as the old estimate. But wait! The laptop weighs only 3 lb, so you have 1 lb free! You could put something in this 1 lb.

$$\begin{array}{ccc} \$3000 & \text{VS} & \left( \$2000 + \frac{???}{1 \text{ LB OF FREE SPACE}} \right) \\ \text{STEREO} & & \text{LAPTOP} \end{array}$$

What's the maximum value you can fit into 1 lb of space? Well, you've been calculating it all along.

MAX VALUE FOR 1 lb →

	1	2	3	4
	\$1500 G	\$1500 G	\$1500 G	\$1500 G
	↓	↓	↓	
	\$1500 G	\$1500 G	\$1500 G	\$3000 S
	↓	↓	↓	
	\$1500 G	\$1500 G	\$2000 L	

According to the last best estimate, you can fit the guitar into that 1 lb space, and that's worth \$1,500. So the real comparison is as follows.

$$\begin{array}{ccc} \$3000 & \text{VS} & \left( \$2000 + \$1500 \right) \\ \text{STEREO} & & \text{LAPTOP} \quad \text{GUITAR} \end{array}$$

You might have been wondering why you were calculating max values for smaller knapsacks. I hope now it makes sense! When you have space left over, you can use the answers to those subproblems to figure out what will fit in that space. It's better to take the laptop + the guitar for \$3,500.