

Town Plan

A		9600		8000
B	11,200	T	P	
C	3200			4000
D		12,000	18,000	
	1	2	3	4

The architect is coming tomorrow to inspect the proposed sites for the new town hall and adjacent park. They are labeled T and P on the sketch above. She will need to know the square footage of each site. Unfortunately, some of the town maps cannot be located. Based on the rectangular areas that are shown, all in square feet, you need to figure the areas of the sites T and P.

Caution: the sketch is not drawn to scale.

Bonus: If it is known that the section of town represented by the entire sketch is 480 feet across by 360 feet down, find the dimensions of T and P.

Solutions

The park (P) is 25,200 and the Town Hall site is 16,800 square feet.

Since rectangles in one row or one column share either a length or a width, the ratio of their areas must equal the ratio of the unshared dimension. Unknown areas can be solved with proportions.

For example, $(\text{Lot B4} / 4000) = (11,200 / 3200)$. $B4 = 14000$ square feet.

Lots D2, D3 and A2 can be used to solve A3.

Lots A3, A4 and B4 will solve P.

Lots A2, A3 and P can be used to solve T.