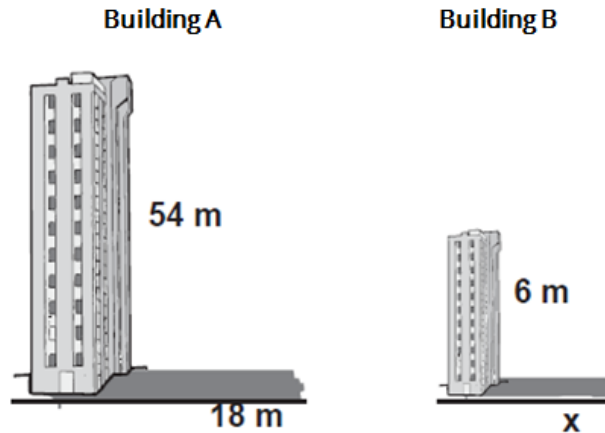


Possible Solutions

Building A in downtown Austin is 54 meters tall and casts a shadow 18 meters long. Building B next door is 6 meters tall. What is the length of the shadow cast by Building B?



Possible Solution 1

- Look at the proportional relationship between the two buildings such as $\frac{\text{Height of Building A}}{\text{Shadow of Building A}} = \frac{\text{Height of Building B}}{\text{Shadow of Building B}}$ which becomes $\frac{54}{18} = \frac{6}{x}$.
- To determine the value of x , cross multiply $54 \cdot x = 18 \cdot 6$ which now becomes, $54x = 108$.
- Divide each side of the equation by 54, which now becomes, $\frac{54x}{54} = \frac{108}{54}$.
- $x = 2$
- The shadow of the smaller building is 2 m long.

Possible Solution 2

- Another solution is to look at the relationship between the two buildings such as $\frac{\text{Height of Building A}}{\text{Height of Building B}} = \frac{\text{Shadow of Building A}}{\text{Shadow of Building B}}$ which becomes $\frac{54}{6} = \frac{18}{x}$.

- Divide 54 by 6, which now becomes, $9 = \frac{18}{x}$.
- $x = 2$
- The shadow of the smaller building is 2 m long.