

Earth to Alpha Centauri

1 \Rightarrow We want to convert the distance below to steps
Earth \longleftrightarrow Alpha Centauri
(Distance) 4.3 light-years = ? Steps (Distance)

Given!

$$1 \text{ step} = 2.5 \text{ ft.}$$

$$\text{speed of light} = 1.86 \times 10^5 \text{ miles/s}$$

2 \Rightarrow We don't really need a formula here since it is just a conversion. But we do need to know 1 light-year is the distance light travels in 1 year.

3 \Rightarrow We know speed and distance so time must be calculable.

4 \Rightarrow We will start with distance in light years and use conversion factors to go from years to seconds, then use speed to convert to miles, then miles to steps

4.3 light years	365 days	24 hours	3600 s	$1.86 \times 10^5 \text{ miles}$
	1 year	1 day	1 hour	s

miles	5280 ft	step
	mile	2.5 ft

 = $5.3 \times 10^{16} \text{ steps}$