Problem 1

Use the formula below to estimate the population of a town:

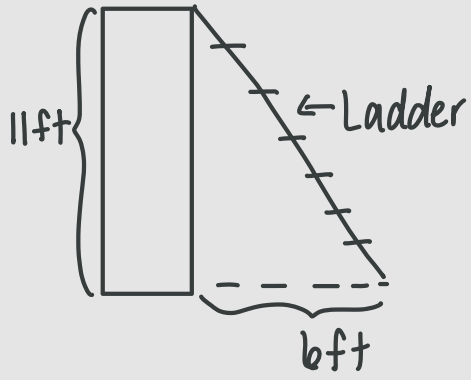
$$10016\,(0.65 + 0.42)^{N}$$

Let N be the number of years after the year 1972. What is the best estimate (round to the nearest whole number) for the population of the town in 2022?

Problem 2

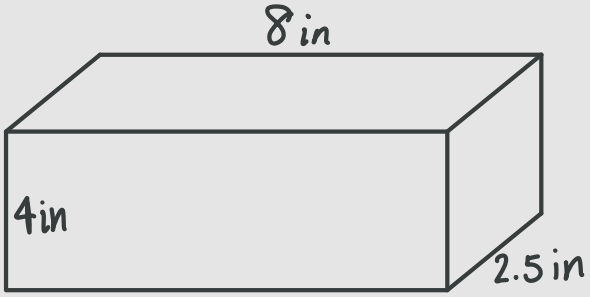
What is the length of the ladder?

$$(\text{Hypotenuse})^2 = (\text{Side } 1)^2 + (\text{Side } 2)^2$$



Problem 3

What is the surface area of the shape below?



Problem 4

Use L to represent the length of Box A. Suppose that Box B is twice the size of Box A, and Box C is a quarter of the size of Box A. If the length of Box D is the sum of the lengths of Box B and C, how can we write Box D's length as an expression using the variable L?

Problem 5

Use the following conversions to answer the questions below:

12 inches = 1 foot

3 feet = 1 yard

8 pints = 1 gallon

16 ounces = 1 pound

Convert:

① 2 feet = ___ inches

② ___ inches = 4 yards

③ 8 ounces = ___ pounds

④ 3 gallons = ___ pints

⑤ ___ gallons = 16 pints

⑥ 3 yards = ___ feet

⑦ ___ pounds = 4 ounces

⑧ 42 inches = ___ feet