

Assignment #9: Ages

Example: There are two famous people, both named Lionel. Lionel #1 is the famed animal trainer D. Lionel Getcha. Lionel #2 is the renowned trial lawyer, Lionel Suya. Getcha is 1 year older than Suya. In five years, Getcha will be three times as old as Suya (in five years). How old are they now?

Solution: There are actually four quantities to keep track of:

Getcha (now):	$x+1$	
Suya (now):	x	
Getcha (in 5 yrs):	$x+6$	(Five years more than $x+1$)
Suya (in 5 yrs):	$x+5$	(Five years more than x)

To write the equation, we use the fact that in the future, Getcha will be three times as old as Suya.

Getcha (in 5 yrs) will be three times as old as Suya (in 5 yrs)

$$x+6 = 3(x+5)$$

We solve to find that now Suya is $-4\frac{1}{2}$ and Getcha is $-3\frac{1}{2}$. Okay, so they're real young! In five years, Suya will be $\frac{1}{2}$ and Getcha will be $1\frac{1}{2}$ (3 times as old as Suya).

Problems

As an exercise, try these using one variable.

1. A widget costs 2 dollars more than a plodget, but is twice as expensive as a gadget. A midget with no digits buys 4 gadgets, a plodget, and 2 widgets for the (tax-free) cost of \$43. Find the cost of a widget.

2. Waldo's Dog Mart is having a sale. Some dogs sell for 35¢ (small, won't fetch, can't bark); others sell for 75¢ (large, drives a car, sings at parties). Yesterday, Waldo sold 40 dogs and took in \$24. How many of each kind of dog were sold?
3. Thomas, an 80 lb goldfish, weighs 20 lbs less than twice Curly's weight. What is Curly's weight?
4. Find three consecutive even integers such that twice the sum of the first and second is 14 more than the sum of the second and third.
5. Find three consecutive odd integers such that 4 less than the sum of the first and last is 5 more than the middle integer.
6. The Martian poet, Mik Sreka, is 11 years older than his rival, Ailuj. In three years, Mik will be one year more than twice Ailuj's age (in three years). How old is Mik now?
7. Kyle is now $4\frac{1}{2}$ times as old as he was ten years ago. How old is he now?

(L): Melissa was asked to write the numbers on the tickets for the school play. The numbers ranged from 1 to 325. How many digits did she have to write?