

Assignment #9: Comparison of Quantities

Example: Rats weigh 30 more grams than bats. Bats weigh half as many grams as gnats. Two rats and a gnat weigh 80 grams. How much does a bat weigh?

Solution: Label like this. Bat: x Gnat: $2x$ Rat: $x + 30$ Then write an equation that says two rats and a gnat weigh 80 grams. $2(x+30) + 2x = 80$. Then solve.

Problems

Find the described numbers.

1. The smaller number is 14 less than twice the larger one. Twice the smaller one is five more than the larger one.
2. Four less than three times a number is the same as 15 more than twice the number.

Solve

3. a. $8(x+5)-5=2(-8x+3)$ b. $2(x+22)=2(x-5)+54$ c. $1-2(c+3)=-(1-2c)$

4. Prunes weigh 60 more grams than plums. Plums weigh half as many grams as pears. Two prunes and a pear weigh 160 grams. How much does a plum weigh?
5. Exactly \$1842 was distributed amongst 65 people. Some got \$24 and the rest got \$30. How many people got \$30 ? (As a six-year old, Tanvi did this problem by calling the two groups of people x and $65-x$. Clever, eh?)