

Problem Solving: Guess and Check

CA Standards
 MR 2.0, NS 2.0

Suppose a cat sleeps 2 hours more each day than a dog and together they sleep 28 hours each day. How many hours each day does a dog sleep? How many hours each day does a cat sleep?

Organize your work in a table.

Guess		Check	
Guess the dog's sleep time.	Add 2 to find the cat's sleep time.	Find the sum of the times.	Compare the sums to 28.
10 hours	$10 + 2 = 12$	$10 + 12 = 22$	$22 < 28$ too low
15 hours	$15 + 2 = 17$	$15 + 17 = 32$	$32 > 28$ too high
13 hours	$13 + 2 = 15$	$13 + 15 = 28$	$28 = 28$ correct

Solution: A dog sleeps 13 hours each day, and a cat sleeps 15 hours each day.

Use guess and check to solve each problem.

- Suppose in one day, a dog can run 10 miles farther than a cat can run and, together, the two animals can run a total of 70 miles in one day. How far can the dog run in one day? How far can the cat run in one day?
-

- Mark and Juanita collected cans for a recycling project. Mark collected 5 more cans than Juanita. Together they collected 65 cans. How many cans did each collect?
-

- Roberta and Lew read a total of 25 books over the summer. Lew read 7 fewer books than Roberta. How many books did each of them read?
-



Writing Math Kim found another way to solve problem 2 above. She divided the 60 cans in half and gave 30 each to Mark and Juanita. Then she added 5 more cans to Mark's total. Can she use the same method in problem 3? Why or why not?
