

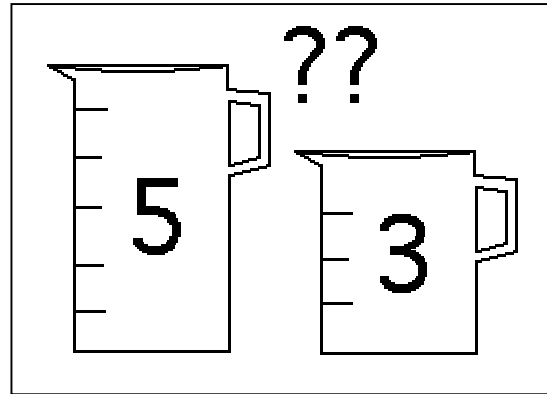
Number puzzles



1) Kitchen Cups

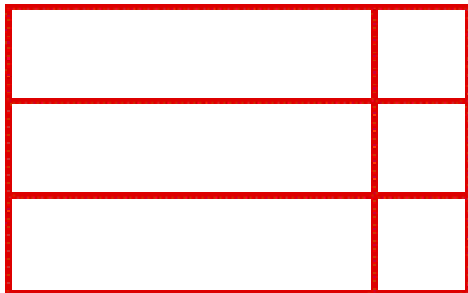
Have you ever seen the written form of the Sanskrit language? If so, you probably are amazed at how different this ancient language from India looks from ours. Some English words, however, are based on Sanskrit. For example, cup comes from the Sanskrit work *kupo*, which means water well. This puzzle requires several water wells.

Suppose you need to measure exactly 1 cup of water. All that you have in your kitchen are two containers. The smaller container holds 3 cups and the larger holds 5 cups. How can you use these two containers to measure exactly 1 cup of water?



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.....
.....

2) Fractured farmland



While flying over farmland, a pilot notices the rectangular shape of the fields below. She sketches the lines that divide the fields. When she returns to the airport, she wonders how many different rectangles can be formed by the lines drawn?

HINT: Don't forget that a square is also a rectangle.

There are rectangles

3) Spare My Brain

To move their armies, the Romans built over 50,000 miles of roads. Imagine driving all those miles! Now imagine driving those miles in the first gasoline-driven car that has only three wheels and could reach a top speed of about 10 miles per hour.

For safety's sake, let's bring along a spare tire. As you drive the 50,000 miles, you rotate the spare with the other tyres so that all four tyres get the same amount of wear. Can you figure out how many miles of wear each tyre accumulates?

..... miles per tyre

4) Cat & Mouse

A farmer has problems with mice eating his corn. He knows that five cats can kill five mice in five minutes. How many cats does he need to kill one hundred mice in one hundred minutes?

..... cats

5) Multiply em together

How much is 1 times 2 times 3 times 4 times 5 times 6 times 7 times 8 times 9 times 0?

.....

6) Jumping Jack

A frog wants to cross to a road which is 16 feet wide. On his first jump he jumps half way across - exactly 8 feet. But he is getting tired and so with each jump he manages to jump only half the distance left between him and the edge of the road. How many jumps does it take for him to get to the other side?

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7) Chocolate box

If you took 5 chocolates from a box which contained 21 chocolates, how many chocolates would you have?

..... chocolates

8) Bookworm

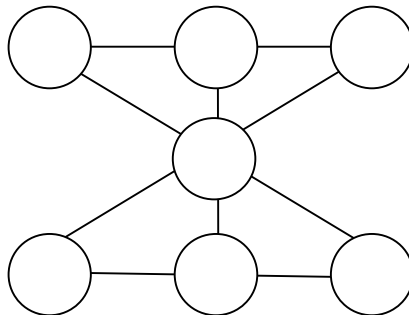


There are ten volumes of an encyclopaedia on a shelf in a library. Each book is two inches thick. The books are in order. A bookworm starts munching his way through the books, starting at the front cover of Volume 1 and finishing with the back cover of Volume 10. If he eats in a straight horizontal line, how far has he gone?
By the way, it's not as simple as it looks.

..... inches

9) It all adds up

Take the digits from 1 to 7 inclusive and place 1 in each circle so that all 3 numbers on any of the connecting lines add up to 12



10) Greedy fox

A fox ate 100 grapes in 5 successive days, each day eating 6 more than the previous day. How many did he eat on each of the 5 days?

Day 1 grapes

Day 2 grapes

Day 3 grapes

Day 4 grapes

Day 5 grapes

NUMBER PUZZLES ANSWERS

Spare My Brain

Since the four wheels of the three-wheeled car share the journey equally, simply take three-fourths of the total distance (50,000 miles) and you'll get 37,500 miles for each tire.

Putting It Together

The list contains fifty pairs of numbers that add to 100 (100+0, 99+1, 98+2, 97+3, etc.) with the number 50 as an unpaired leftover: $50 \times 100 + 50 = 5,050$

Fractured Farmland

Eighteen: one whole composite block (1,2,3,4,5,6); six separate blocks (1) (2) (3) (4) (5) (6); three horizontal pairs (1 & 4) (2 & 5) (3 & 6); four vertical pairs (1 & 2) (2 & 3) (4 & 5) (5 & 6); two vertical triplets (1,2,3) (4,5,6); two large blocks (1,4,2 & 5) (2,5,3 & 6)

Kitchen Cups

Fill the three-cup container with water. Pour it into the five-cup container. Fill the three-cup container again, and fill up the five-cup container. This will leave you with exactly one cup of water in the three-cup container.

Cat & Mouse

A farmer has problems with mice eating his corn. He knows that five cats can kill five mice in five minutes. How many cats does he need to kill one hundred mice in one hundred minutes? *Answer: 5 cats.*

Multiply em together

Answer: 0.

Jumping Jack

Answer: he never makes it - although the distance gets smaller, the frog always has half as much to go.

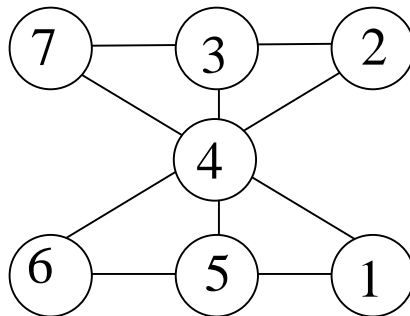
Chocolate box

Answer: you took 5 chocolates, so you have 5.

Bookworm

ANSWER: The bookworm travels 16 inches. If the books are put on the shelf the right way up the front cover of volume one is on the inside, the back cover of the volume ten is also on the inside.

It all adds up



ANSWER

Greedy fox

Answer

Day 18.... grapes
Day 214.... grapes
Day 320.... grapes
Day 426.... grapes
Day 532.... grapes

day 1 = x grapes day 2 = x+6 grapes day 3 = x+12 grapes day 4 = x+18 grapes day 5 = x+24 grapes so $5x + 60 = 100$ therefore $x = 8$
