

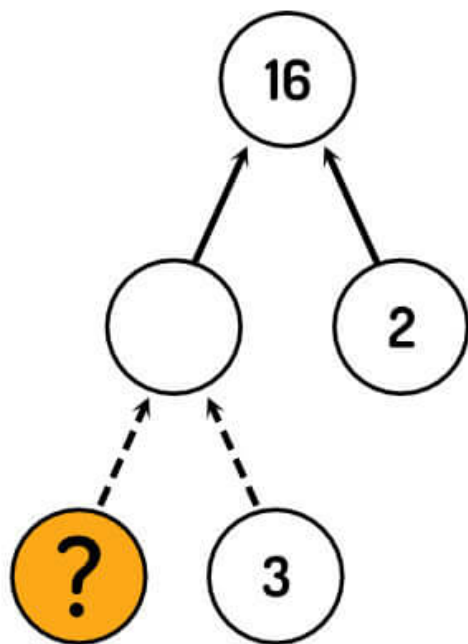
Fun with Numbers

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What number must go in the yellow marked circle?

Mathematical Puzzle



Dashed lines mean add, and solid lines mean multiply.

For example, two dashed lines point from ? and 3, so we add those numbers together to fill in the circle they point at.

What number must go in the yellow marked circle?

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3

4

5

6

Correct! Wrong!

We can work backward starting from 16. We know that 2 circles multiply to make 16. We also know one number is 2. Since $2 \times 8 = 16$, the other value has to be 8. Now we know at the bottom $3 + x = 8$, thus $x = 5$.

If all the empty circles are positive integers, how many solutions does this puzzle have?

Mathematical Puzzle

In the circle puzzle below, dashed arrows mean to add and solid arrows mean to multiply.

If all of the empty circles are positive integers, how many solutions does this puzzle have?

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- 0
- 1
- 2
- 3
- 4

Correct! Wrong!

Let's start with the circle with no. 10. Three circles are added to make 10. One of the circles has a value of -2. So the balance

2 circles must add to: $x+y-2=10$, thus $x+y=12$. Lets move our attention to the circles on the left of the puzzle. The 2 circles (3 and blank) multiply to form a blank circle. The blank circle can be anything between 1-11 as the sums says the circles are all positive integers. So the multiples of 3 within this range are: $3*1=3$, $3*2 = 6$, $3*3=9$. Thus there are 3 possible solutions.