
Section A

A1
What is $(1 + 2 + 3 + 4) \times 10$?

Solution. The order of operations says that we should compute the stuff inside brackets first. We can compute this from left to right.

$$(1 + 2 + 3 + 4) \times 10 = (3 + 3 + 4) \times 10 = (6 + 4) \times 10 = 10 \times 10 = 100$$

Answer to A1: 100

A2
How many days are in 120 hours?

Solution. There are 24 hours in a day. Hence, there are

$$120 \div 24 = 5$$

days in 120 hours.

Answer to A2: 5

A3
A pencil costs 50¢, a pen costs 60¢, and an eraser costs \$1. How much do 10 pencils, 5 pens, and 2 erasers cost in total? Give your answer in dollars.

Solution. Recall that $\$1 = 100¢$. We want to calculate

$$10 \times 50¢ + 5 \times 60¢ + 2 \times \$1 = \$5 + \$3 + \$2 = \$10$$

Answer to A3: 10

A4
You have 12 cookies. You and each of your friends eat 3 cookies each, and none are left over. How many friends do you have?

Solution. Since every person ate 3 cookies, there must be

$$12 \div 3 = 4$$

people. But that includes myself. Excluding myself, then, I have $4 - 1 = 3$ friends.

Answer to A4: 3

A5
Amy brings $15 with her to the book store. She spends one third of it on a notebook, then another $3 on a pen. How much does she have left?

Solution. A third of $15 is $5, so the notebook cost $5. After buying the notebook, she would have

$$\$15 - \$5 = \$10$$

left. Then after buying the pen, she would have

$$\$10 - \$3 = \$7$$

remaining.

Answer to A5: 7

A6
Eric and Jamie have 18 gummies in total. Jamie has 2 more gummies than Eric. How many gummies does Eric have?

Solution. If the gummies were split evenly, then both Eric and Jamie would have

$$18 \div 2 = 9$$

gummies. But we are given that Jamie has 2 more gummies than Eric. If we transfer one gummy from Eric to Jamie, then Jamie would gain 1 gummy, and Eric would lose 1 gummy, so in total Jamie would get two more gummies than Eric. Therefore, the split is that Jamie has 10 gummies and Eric has 8.

Answer to A6: 8

A7

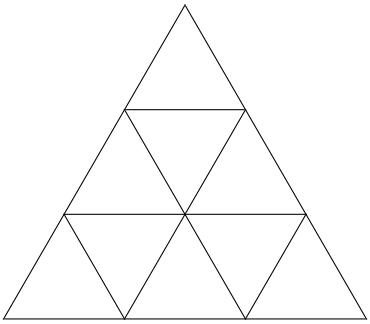
Including both 1 and 21, how many odd numbers are there between 1 and 21?

Solution. The odd numbers between 1 and 21 are: $1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21$, and there are 11 of them.

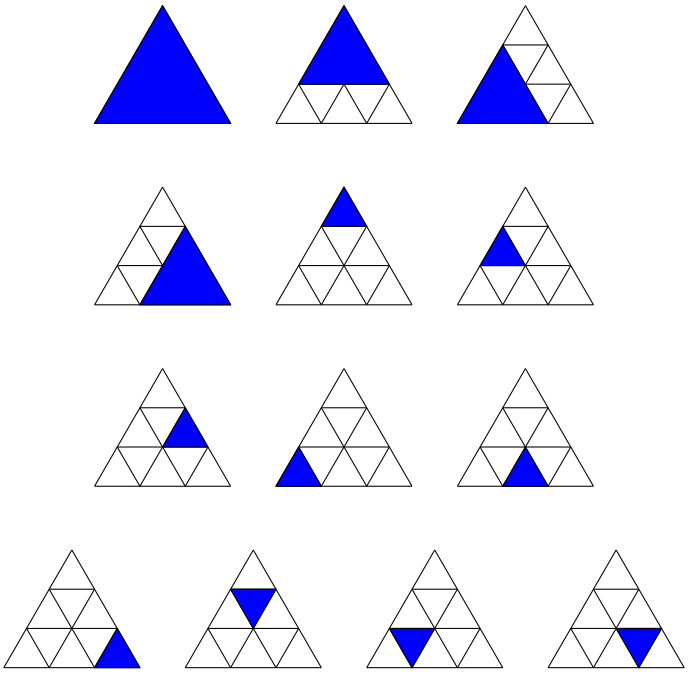
Answer to A7: 11

A8

How many triangles are in this picture?



Solution. All the triangles are highlighted in blue. There are 13.



Official Solutions

Answer to A8: 13