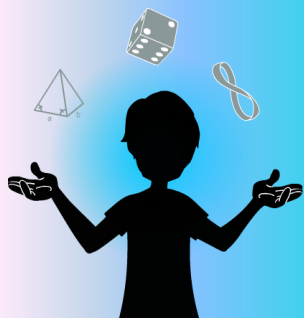


# PUZZLING CARTOON

## - PLANET KRYPTON -



AMAZINGMATHS

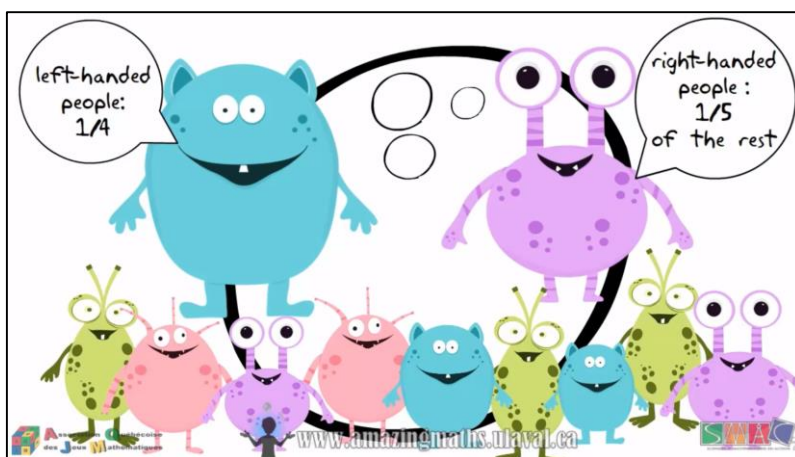
### Materials:

- Video of the puzzle
- Pen and paper

## The Puzzle

On planet Krypton, the left-handed individuals consist of a quarter of the total population, and the right-handed individuals consist of a fifth of the rest of the population.

The other Kryptonians are ambidextrous. It is important to know that none of the left-handed or right-handed Kryptonians are considered ambidextrous.



If none of the left-handed or right-handed Kryptonians are considered ambidextrous, which percentage of the total population do the right-handed Kryptonians represent?



# PUZZLE SOLUTION



## The answer:

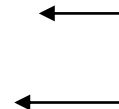
The right-handed Kryptonians represent 15% of the total population.

## The solution:

Since there are different proportions related to the total population, it is better to put all fractions on the same denominator.

Multiples of 4: 4, 8, 12, 16, **20**, 24, 28, 32, 36...

Multiples of 5: 5, 10, 15, **20**, 25, 30...



The smallest common denominator for 4 and 5 is 20.

Because the common denominator is 20, we will represent the rest of population in 20 equal parts.

Every character in the illustration below represents  $\frac{1}{20}$  of the total Kryptonian population.

### Kryptonian Population



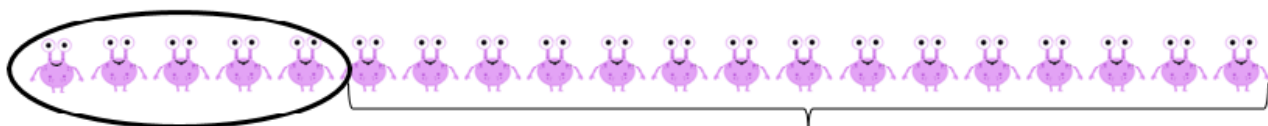
We know that the left-handed population represents  $\frac{1}{4}$  of the total population. Since we want all our fractions to be on the same denominator (over 20), we must find the equivalent of  $\frac{1}{4}$  over 20:

$$\frac{1}{4} = \frac{5}{20}$$

X 5

So, the left-handed Kryptonians represent  $\frac{5}{20}$  of the total population (5 out of the 20 characters).

### Total population of Kryptonians



Left-handed

Right-handed and ambidextrous



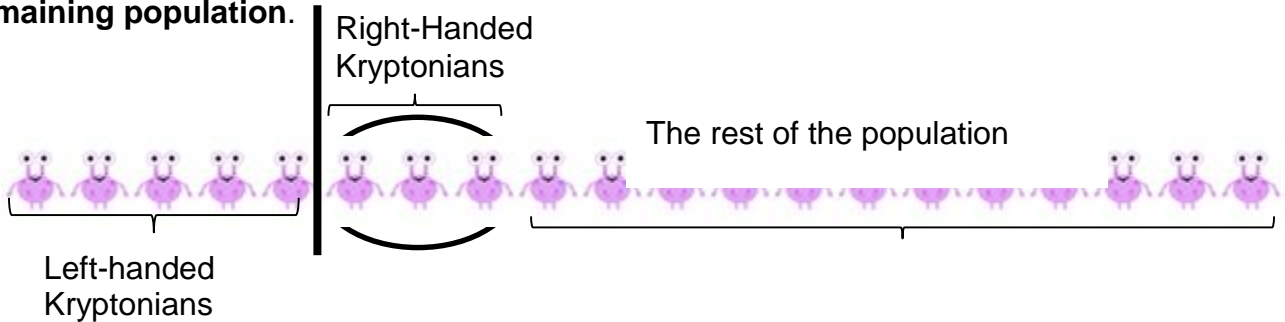
the remaining  $\frac{15}{20}$  of the population are the right-handed and ambidextrous K



We also know that the right-handed Kryptonians represent  $\frac{1}{5}$  of the rest of the population. Since there are 15 remaining characters to represent the rest of the population, we must find the equivalent of  $\frac{1}{5}$  over 15.

$$\begin{array}{c} \times 3 \\ \frac{1}{5} = \frac{3}{15} \\ \times 3 \end{array}$$

This calculation allows us to know that the right-handed Kryptonians represent  $\frac{3}{15}$  of the remaining population.



By coming back to the total population, and after our calculations, we know that the left-handed Kryptonians represent  $\frac{5}{20}$  of the total population and that the right-handed Kryptonians represent  $\frac{3}{20}$  of the total population. Since we want to know the percentage equivalent of  $\frac{3}{20}$ , we must find the equivalent fraction of  $\frac{3}{20}$  over 100.

$$\begin{array}{c} \times 5 \\ \frac{3}{20} = \frac{15}{100} = 15\% \\ \times 5 \end{array}$$

As a result, we find that the right-handed Kryptonians represent 15% of the total population.