



CTSC MATHS THINKER



Grade 7 - Problem Solving

Time for the Grade 7 learners to put their problem solving caps on.

QUESTIONS:

1. In the report card that Bafo received, he scored 93 in Natural Sciences, 88 in Mathematics, and a score in English that is double his score in Life Orientation. The average score of all 4 courses is 79. What were his scores in English and Life Orientation?
2. There are bicycles and cars in a parking lot. There is a total of 300 wheels including 100 small wheels for bicycles. How many cars and how many bicycles are there?
3. The difference between two numbers is 17 and their sum is 69. Find the larger of these two numbers.

MEMORANDUM:

1. Let x be Bafo's score in Life Orientation. His score in English is double his score in Life Orientation and it is equal to

$$2x$$

the average of all four scores is 79. Hence

$$(93 + 88 + x + 2x) \div 4 = 79$$

Multiply both sides of the equation by 4

$$4X(93 + 88 + x + 2x) \div 4 = 4X79$$

Simplify

$$93 + 88 + x + 2x = 316$$

Group like terms

$$3x + 181 = 316$$

Solve for x

$$3x = 316 - 181$$

$$3x = 135$$

$$3x \div 3 = 135 \div 3$$

$$x = 45$$

Score in Life Orientation = $x = 45$

Score in English = $2x = 2 \times 45 = 90$

2. 100 small wheels for bicycles gives

$$100 \div 2 = 50 \text{ bicycles}$$

A total of 300 wheels and 100 wheels for bicycles gives

$$300 - 100 = 200 \text{ wheels for cars}$$

200 wheels for cars gives

$$200 \div 4 = 50 \text{ cars}$$

3. Let x be the smallest number, then the largest number is

$x + 17$ since their difference is 17

The sum of the two numbers is 69, hence

$$x + (x + 17) = 69$$

group like terms and solve

$$2x + 17 = 69$$

$$2x = 69 - 17$$

$$2x = 52$$

$$2x \div 2 = 52 \div 2$$

$$x = 26$$

the largest of these two numbers is

$$x + 17 = 43$$