YEAR 8 MATHEMATICS WEEK 1 2020 (TERM 2)

Year: 8   **Date: Thursday 21 May 2020**

STRAND: NUMBERS   **TOPIC: Ratio**

LESSON OUTCOME: At the end of this lesson student(s) should be able to solve simple problems involving ratios.

Instructions: Hi dear Parents/Guardians and students - In this Lesson students are going to solve simple problems involving ratios and do the selected questions for **Exercise 1.8**.

[*Note that all the Quizzes/Test and or Assignment will be based on the selected questions for each exercise. These lessons are designed for **one hour per Lesson**.]*

What to do: Do the following selected questions

        Exercise 1.8: Q1; Q2; Q3

Solutions: Solutions will be available online via
        https://www.facebook.com/centralschoolemergencyforum/posts/108720557434149

Simple problems involving ratios

Example 1   Ann's pay to Tom's pay is in the ratio 4 : 5.
Ann earns 10 000 vt. What does Tom earn?

Answer: Ann's pay : Tom's pay

$$4 : 5$$

x 2500 $\left(\right)$ x 2500

$$10000 : ?$$

∴ Tom's pay = 5 x 2000
= 12 500 vatu.

Example 2   A brick is made of a mixture of cement and sand.
If the ratio of cement to sand is 2 : 7, how many kg of
cement do we need if we use 56 kg of sand?

Answer: cement : sand

$$2\& : 7$$

x 8 $\left(\right)$ x 8

$$? : 56$$

∴ cement needed = 2 x 8
= 16 kg

Example 3   In a pattern of shapes, the ratio of triangles to circles is
1 : 3. Find:

(a)   the number of triangles if there are 27 circles.

Answer: triangles : circles

$$1 : 3$$

x 9 $\left(\right)$ x 9

$$? : 27$$

∴ there will be = 9 x 1
= 9 triangles.

(b)   the number of circles if there are 8 triangles.

Answer: triangles : circles

$$1 : 3$$

x 8 $\left(\right)$ x 8

$$8 : ?$$

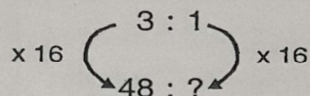∴ there are = 3 x 8
= 24 circles.

Example 4   Jeff has three times as many marbles as Joe.

(a)   What is the ratio of Jeff's to Joe's marbles?

Answer: Jeff : Joe

= 3 : 1

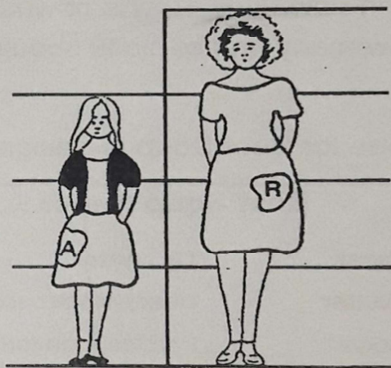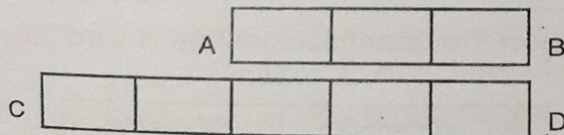(b)   How many marbles does Joe have if Jeff has 48 marbles?

Answer: Jeff : Joe

3 : 1

x 16 $\huge($ $\huge)$ x 16

48 : ?

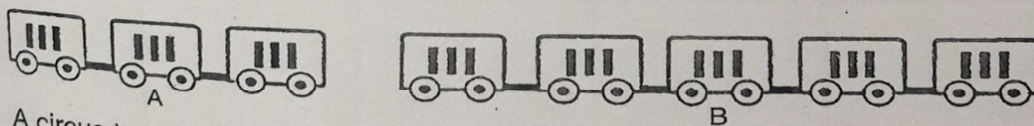∴ Joe has = 1 x 16

= 16 marbles.

Exercise 1.8

1.   Anne's height to Rita's is in the ratio 3 : 4. If Anne is 90 cm tall, how tall is Rita?

2.   AB : CD = 3 : 5. If AB is 12 cm long:

(a)   how long is each part of AB?

(b)   how long is CD?

3.

A circus transports its animals in wagons, each holding the same number. Say wagon-train A carries 6 ponies:

(a)   How many ponies in each wagon?

(b)   How many ponies could wagon-train B carry?