REINFORCEMENT ACTIVITIES

Subject: Mathematics **Grade:** 8º **Period:** II **Year:** 2019

SUGGESTION

Each period, the teacher formulates a problematizing question or situation related to the learning goals that help the student to train him/herself and get ready to prove his/her knowledge and proficiency levels in each area. This process is scheduled for the week in March from 20th to 24th. The student should consult the bibliographic references cited by the teacher and turn in three academic products for the period written with basic standards to give account for the skills acquired.

1. **Problematizing question:**

   How does the learning and handling of linear equations and inequalities make it possible to give answers to social issues?

2. **Learning Goals**

   Solve practical problems of everyday life through the understanding of equations and inequalities through factoring algebraic expressions.

3. **Academic products**

   - Equations and linear inequalities.
   - Linear equations. (Z and Q).
   - Problems of linear equations.
   - Linear inequalities.
   - Algebraic expressions.
   - Notable products
   - Polynomials (sum, substraction, multiplication and division).

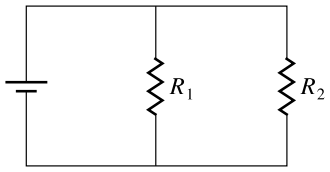
4. **Bibliographic references**

- **Notes from classes.**
- **https://www.youtube.com/watch?v=LDliYKYvvdA**
- **https://www.youtube.com/watch?v=UfaOr5jvxSE**
- **https://www.youtube.com/watch?v=ffLLmV4mZwU**
- **https://www.youtube.com/watch?v=bFtjG45-Udk**

1. In electrical theory, the formula:

$$\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2}$$

Is used to find the total resistance R when two resistances R1 and R2 are connected in parallel, as illustrated in the figure. Solve for R in the equation



2. Solve the following equation and test its solution.

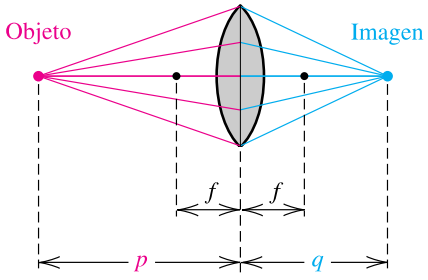
$$\frac{7}{y^2 - 4} - \frac{4}{y + 2} = \frac{5}{y - 2}$$

3. A chemist has 10 milliliters of a solution containing a 30% concentration of acid. How many milliliters of pure acid should be added to increase the concentration to 50%?

4. If a convex lens has a focal length of f centimeters and if an object is placed at a distance of p centimeters from the lens with p> f, then the distance q from the lens to the image is related to p and f by the formula

$$\frac{1}{p} + \frac{1}{q} = \frac{1}{f}$$

This situation can be seen in the following image:



If f = 5 cm, how close should the lens object be so that the image is more than 12 centimeters from the lens?

5. Express as a polynomial the expression $(13a^2 + 5b)(13a^2 - 5b)$ using notable products.