

1. Write the numbers, written in the ternary (3-based) system in decimal system:

$$a. 12101_3; \quad b. 111_3, \quad c. 222_3$$

2. Write the numbers 231 and 101 in ternary system.

3. Evaluate (answer is 5):

$$(2.5 - 0.75) \cdot \frac{4}{7} + \left(\left(3\frac{3}{8} - 2\frac{11}{12} \right) \cdot 1\frac{7}{9} + 2\frac{11}{12} \cdot 1\frac{7}{9} \right) : \left(3.5 : 2\frac{1}{3} \right)$$

4. Parliament elections were held on Fruit Island. Everyone who voted for the Mandarin party love tangerines. Of those who voted for other parties, 90% do not like tangerines. How many percent of the votes got the Mandarin party, if it is known that exactly 46% of the inhabitants love tangerines.

5. Positive or negative value of m will make the following equalities true statements?

$$|m| = m$$

$$m = -m$$

$$|m| = -m$$

$$m + |m| = 0$$

$$-m = |-m|$$

$$m + |m| = 2m$$

$$m = |-m|$$

$$m - |m| = 2m$$

6. Fraction $\frac{p}{q}$ is reducible fraction (can be simplified).

Show that the fractions

$$\frac{q}{p}; \quad \frac{p-q}{q}; \quad \frac{q+p}{p}; \quad \frac{p-2q}{q}$$

Are also reducible. (hint: p and q have same common factor, can be written as

$$p = km, \quad q = kl; \quad k, m, l \in N(\text{natural numbers})$$