

SENIOR ONE MATHEMATICS ACTIVITY

Represent the following numbers on the abacus:

(a) 1101_{two} (b) 2102_{three} (c) 2021_{four} (d) 5645_{seven} (e) 8756_{nine}

Convert the following numbers to the bases indicated:

(a) 762_{eight} to base seven; (b) 234_{five} to base six; (c) 561_{seven} to base nine; (d) 654_{six} to base four; (e) 5432_{six} to twelve.

1. Add: (a) 654_{seven} to 514_{seven} (b) 278_{nine} to 756_{nine}
2. Subtract: (a) 412_{six} from 554_{six} (b) 435_{eight} from 764_{eight}
3. Multiply: (a) 1121_{three} by 212_{three} (b) 312_{four} by 122_{four}
4. Divide: (a) 100011_{two} by 111_{two} (b) 150_{nine} by 20_{nine}

Number Game: You are given four boxes containing numbers in base ten. The boxes are labelled Box 1, Box 2, Box 3 and Box 4.

9 1 15 7

Box 1

6 14 2 7 15

Box 2

15 14 6 12 4 7

Box 3

15 14 9 12

Box 4

Task: Select one number from any of the boxes given. Your mathematics teacher will ask you whether the number you selected appears in Box 1, Box 2, Box 3 and Box 4. From the responses you give, the teacher will tell you the number you selected. Discuss how the teacher was able to tell you the number you had selected.

Situation of Integration

A community is hit by famine and the government decides to give each member in the household a potato to solve their problem of hunger.

Support: Each package contains an equal number of potatoes of five.

There are 10 households in the community with 3, 5, 7, 4, 6, 5, 8, 12, 13, 9, members respectively.

Resources: Knowledge of Bases, knowledge of mathematical operations

Task: Determine the number of packages of potatoes the government will take to that Community. In case there are remaining potatoes, discuss what the government should do with them.