

IGCSE – Ratio/percentages/simultaneous equations

Oct 04 Paper 4

- 1 The population of Newtown is 45 000.
The population of Villeneuve is 39 000.
- (a) Calculate the ratio of these populations in its simplest form. [1]
- (b) In Newtown, 28% of the population are below the age of twenty.
Calculate how many people in Newtown are below the age of twenty. [2]
- (c) In Villeneuve, 16 000 people are below the age of twenty.
Calculate the percentage of people in Villeneuve below the age of twenty. [2]
- (d) The population of Newtown is 125% greater than it was fifty years ago.
Calculate the population of Newtown fifty years ago. [2]
- (e) The two towns are combined and made into one city called Monocity.
In Monocity the ratio of
men : women : children is 12 : 13 : 5.
Calculate the number of children in Monocity. [2]

May 05 Paper 4

- 1 Hassan sells fruit and vegetables at the market.
- (a) The mass of fruit and vegetables he sells is in the ratio
fruit : vegetables = 5 : 7.
Hassan sells 1.33 tonnes of vegetables.
How many kilograms of fruit does he sell? [3]
- (b) The amount of money Hassan receives from selling fruit and vegetables is in the ratio
fruit : vegetables = 9 : 8.
Hassan receives a total of \$765 from selling fruit and vegetables.
Calculate how much Hassan receives from selling fruit. [2]
- (c) Calculate the average price of Hassan's fruit, in dollars per kilogram. [2]
- (d) (i) Hassan sells oranges for \$0.35 per kilogram.
He reduces this price by 40%.
Calculate the new price per kilogram. [2]
- (ii) The price of \$0.35 per kilogram of oranges is an increase of 25% on the previous day's price.
Calculate the previous day's price. [2]

May 03 Paper 4

- 1 Tickets for the theatre cost either \$10 or \$16.
- (a) Calculate the total cost of 197 tickets at \$10 each and 95 tickets at \$16 each. [1]
- (b) On Monday, 157 tickets at \$10 and n tickets at \$16 were sold. The total cost was \$4018.
Calculate the value of n . [2]
- (c) On Tuesday, 319 tickets were sold altogether. The total cost was \$3784.
Using x for the number of \$10 tickets sold and y for the number of \$16 tickets sold, write down two equations in x and y .

Solve your equations to find the number of \$10 tickets and the number of \$16 tickets sold. [5]
- (d) On Wednesday, the cost of a \$16 ticket was reduced by 15%. Calculate this new reduced cost. [2]
- (e) The \$10 ticket costs 25% more than it did last year. Calculate the cost last year. [2]