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| --- | --- |
| The admission fee at a small fair is $1.50 for children and $4.00 for adults. On a certain day, 2,200 people enter the fair and $5,050 is collected. How many children and how many adults attended? | *x* + *y* = 2,200 4*x* + 1.5*y* = 5,050 |
| Suppose Ken has 25 nickels and dimes and has a total of $1**.**65. How many nickels and how many dimes does he have? | x + y = 25.05x + .10y = 1.65 |
| The sum of the digits of a two-digit number is 7. When the digits of the two-digit number are reversed, the resulting number is increased by 27 more than the original two-digit number. Find the number. | *x* + *y* = 7 10*y* + *x* = 10*x* + *y* + 27 |
| Five hundred tickets were sold for a music concert. Tickets for adults sold for $7.50, tickets for children sold for $4.00, and tickets for senior citizens sold for $3.50. The revenue from the Monday performance was $3,025. Twice as many adult tickets were sold as children’s tickets. How many of each type of ticket was sold? |

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| --- | --- | --- | --- |
| *x*+*y*+*z* | = | 500 |  |
|  |  |  |   |
| 7.50*x*+4.00*y*+3.50*z* | = | 3,025 |  |
|  |  |  |   |
| *x*-2*y* | = | 0 |  |

 |
| Your company has 30%, 40%, and 80% acid solutions available. All three solution strengths can be mixed to produce 100-gallons of a 39% acid solution. If the company combines the amount of 30% solution with the amount of the 80% solution in the first mix, it can create a 100-gallon solution that is 59% acid. How much of the 30%, 40%, and 80% solutions did the company mix to create a 100-gallons of a 39% acid solution? |

|  |  |  |  |
| --- | --- | --- | --- |
| *x*+*y*+*z* | = | 100 |  |
|  |  |  |   |
| 0.30*x*+0.40*y*+0.80*z* | = | 39 |  |
|  |  |  |   |
| 0.80*x*+0.40*y*+0.30*z* | = | 59 |  |

 |
| A florist is making 5 identical bridesmaid bouquets.  She has $610 to spend (including tax) and wants 24 flowers for each bouquet.  Roses cost $6 each, tulips cost $4 each, and lilies cost $3 each (tax is included in the prices of the flowers).  She wants to have twice as many roses as the other 2 flowers combined in each bouquet.  How many roses, tulips, and lilies are in each bouquet? |

|  |  |  |
| --- | --- | --- |
| *x*+*y*+*z* | = | 5(24) |
|  |  |  |
| 6*x*+4*y*+3*z* | = | 610 |
|  |  |  |
| x | = | 2(y + z) |

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