ordered 11 hot dogs, 10 French fries, and 12 soft drinks for a total bill of $30.05. What were the prices of a hot dog, an order of French fries, and a soft drink?

**7.** A fast food restaurant sells four types of sandwiches — hamburgers, cheeseburgers, roast beef, and chicken — and has four cash registers. At the end of each day, each cash register tallies the number of each type of sandwich sold, and the total sandwich receipts for the day. The four cash register operators work at different speeds, and one day's totals were as follows:

|  | Hamburgers | Cheeseburgers | Roast Beef | Chicken | Receipts |
|---|---|---|---|---|---|
| Register 1 | 37 | 44 | 17 | 23 | $232.99 |
| Register 2 | 28 | 35 | 13 | 17 | $178.97 |
| Register 3 | 32 | 39 | 19 | 21 | $215.99 |
| Register 4 | 47 | 51 | 25 | 29 | $294.38 |

What was the price of each of the four types of sandwiches?

**8.** The fast food restaurant of the preceding problem adds a ham sandwich to its menu, and due to increased business it also adds a fifth cash register and reduces prices. After this expansion, one day's totals were as follows:

|  | Hamburgers | Cheeseburgers | Roast Beef | Chicken | Ham | Total |
|---|---|---|---|---|---|---|
| Register 1 | 41 | 49 | 22 | 26 | 19 | $292.79 |
| Register 2 | 34 | 39 | 18 | 20 | 16 | $236.73 |
| Register 3 | 36 | 43 | 23 | 24 | 18 | $270.70 |
| Register 4 | 49 | 52 | 26 | 31 | 24 | $340.19 |
| Register 5 | 52 | 55 | 24 | 28 | 25 | $341.64 |

What were the new prices of the five types of sandwiches?

## Using *Maple*

The matrices **A** and **b** in (2) and (3) can be entered with the *Maple* commands

```
with(linalg):
A := array( [[322, -163, 231, -455, 889],
             [107, -181, 428, -571, 445],
             [351, -144, 421, -936, 848],
             [111, -709, 484,  625, 421]] ):
b := array( [[889], [445], [848], [421]] ):
```

Then the inverse $A^{-1}$ is given by

```
invA := inverse(A);
```