Short Orders

Here is the menu board of a cafe.

<table>
<thead>
<tr>
<th>MENU</th>
<th>EAT-IN</th>
<th>TAKE-AWAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>SANDWICH</td>
<td>95p</td>
<td>80p</td>
</tr>
<tr>
<td>ROLL</td>
<td>75p</td>
<td>70p</td>
</tr>
<tr>
<td>BISCUIT</td>
<td>25p</td>
<td>25p</td>
</tr>
<tr>
<td>COFFEE</td>
<td>50p</td>
<td>45p</td>
</tr>
<tr>
<td>TEA</td>
<td>40p</td>
<td>35p</td>
</tr>
<tr>
<td>JUICE</td>
<td>70p</td>
<td>60p</td>
</tr>
</tbody>
</table>

The cafe gets very busy so instead of writing out an order in full, the staff use a code using letters to stand for prices.

Instead of wring

they write

One coffee, one sandwich and one juice.

C + S + J

The cost of this order is;

To Eat-In

50p + 95p + 70p = £2.15

To Take-Away

45p + 80p + 60p = £1.85

1. Write down the price codes and work out the Eat-In and the Take-Away cost for each of these orders.

a) One tea, one sandwich.

b) One coffee, one biscuit and one roll.

c) One juice, one tea, one sandwich and two rolls.
• How did you write the order in question (1c) in code?

• You might have written
  \[ J + T + S + R + R \]

• A shorter way is
  \[ J + T + S + 2R \]

• An order of 25 teas could be written as

\[
T + T + T + T + T + T + T + T + T + T + T + T + T + T + T + T + T + T + T + T + T + T + T + T + T
\]

or \(25T\)

The second method saves time

**EXAMPLE**

<table>
<thead>
<tr>
<th>Order</th>
<th>Price Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eat-In Cost</td>
<td>One roll, six sandwiches, two teas, four coffees and one juice</td>
</tr>
<tr>
<td>Eat-In Cost</td>
<td>[ R = 6S + 2T + 4C + J ]</td>
</tr>
</tbody>
</table>
| Eat-In Cost                                | \[
75 = 75 + \]
|                                           | \[
\]
|                                           | \[
= 570 + \]
|                                           | \[
= 80 + \]
|                                           | \[
= 200 + \]
|                                           | \[
= 70 \]
|                                           | \[= 9.95 \]                                                             |
| Take-Away Cost                             | \[
70 = 70 + \]
|                                           | \[
= 480 + \]
|                                           | \[
= 70 + \]
|                                           | \[
= 180 + \]
|                                           | \[
= 60 \]
|                                           | \[= 8.60 \]                                                             |

2. Calculate the **Eat-In** and the **Take-Away** cost of the following three orders:

a) Five coffees, three teas and four biscuits.

b) Three juices, two teas, four rolls and one sandwich.

c) \[7S + R + 5T + J\]