These are alleged answers. For each error herein, you get extra-credit points for being the first to report it by e-mail.

1. Here’s the kind of solution to be found in “Book ID: 203”:

<table>
<thead>
<tr>
<th>$u(x) = x$</th>
<th>$v'(x) = \sin(x)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$u'(x) = 1$</td>
<td>$v(x) = -\cos(x)$</td>
</tr>
</tbody>
</table>

So that the formula

$$\int u(x)v'(x) \, dx = u(x)v(x) - \int u'(x)v(x) \, dx$$

works out as follows:

$$\int x \sin(x) \, dx = x(-\cos(x)) - \int (-\cos(x)) \, dx$$

$$= -x \cos(x) + \int \cos(x) \, dx$$

$$= -x \cos(x) + \sin(x) + C$$

2. \[ \int_{-\pi/2}^{\pi/2} x \sin(x) \, dx = 2 \]

3. \[ \int_{\pi/3}^{\pi} x \sin(x) \, dx = \frac{7\pi}{6} - \frac{\sqrt{3}}{2} \]