

Finding the Number of Items [See 5.2: 62 and 5.3: 45, 49]

These problems involve finding the number of items where two types of items are involved. The total amount and total number of items are given along with the price of each item. The given items are shown with a < > in the chart. The last column is found by multiplying the items in the previous two columns together. The 1st equation comes from 2nd column and the 2nd equation comes from the last column.

Let x = number of children tickets.

Let y = number of adult tickets.

Description	Number of Tickets	Price of One Ticket	Price of Tickets
Children Tickets	x	<price of child ticket>	<price of child ticket> x
Adult Tickets	y	<price of adult ticket>	<price of adult ticket> y
Total	<total no. of tickets>		<total amount of dollars>

1st Equation

2nd Equation

Example: 5.2:62

A small fair charges different admission for adults and children. It charges \$3.75 for adults, and \$1 for children. On a certain day, the total revenue is \$384.25 and the fair admits 200 people. How many adults and children were admitted?

Let x = number of children admitted.

Let y = number of adult admitted.

Description	Number of People	Charge Per Person \$	Revenue \$
Children	x	1	$1x$
Adult	y	3.75	$3.75y$
Total	200		384.25

$$\begin{cases} x + y = 200 \\ 1x + 3.75y = 384.25 \end{cases}$$