

Math 70 - Quiz # 4

Name Key

A museum sells adults' and children's tickets. A family of 2 adults and 3 children pays \$26. A group of 4 adults and 5 children pays \$48.

a) Write 2 equations to represent the information.

$$\begin{aligned} 2A + 3C &= 26 \\ 4A + 5C &= 48 \end{aligned}$$

match  $\begin{matrix} -4A \\ +4A \end{matrix}$

b) Solve the equations to find the cost of each type of ticket.

$$\begin{aligned} -2(2A + 3C = 26) &\Rightarrow \begin{array}{r} -4A - 6C = -52 \\ 4A + 5C = 48 \\ \hline \end{array} \end{aligned}$$

$$-C = -4$$

$C = \$4$  children's ticket

$$2A + 3(4) = 26$$

$$\begin{aligned} 2A + 12 &= 26 \\ -12 &-12 \end{aligned}$$

$$\begin{aligned} 2A &= 14, \\ \frac{2A}{2} & \quad \frac{14}{2} \end{aligned}$$

$A = \$7$  adult ticket