

$$\begin{aligned} \textcircled{1} \textcircled{a} \text{ Total cost} &= 197 \times \$10 + 95 \times \$16 \\ &= \$1970 + \$1520 \\ &= \$3490 \end{aligned}$$

$$\textcircled{b} \text{ Total cost} = \$4018$$

$$\$4018 = 157 \times \$10 + n \times \$16$$

$$\$4018 = \$1570 + \$16 \cdot n$$

$$\$4018 - \$1570 = \$16n$$

$$\$2448 = \$16n$$

$$n = \frac{\$2448}{\$16}$$

$$n = 153 \text{ tickets}$$

$$\textcircled{c} \quad x + y = 319 \dots (\text{first equation})$$

$$x \cdot \$10 + y \cdot \$16 = \$3784$$

$$10x + 16y = 3784 \dots (\text{second equation})$$

$$x + y = 319$$

$$x = 319 - y$$

$$x = 319 - 99$$

$$= 220 \text{ tickets}$$

$$10x + 16y = 3784$$

$$10(319 - y) + 16y = 3784$$

$$3190 - 10y + 16y = 3784$$

$$6y = 3784 - 3190$$

$$6y = 594$$

$$y = \frac{594}{6}$$

$$y = 99 \text{ tickets}$$

$$\textcircled{d} \text{ Reduction} = \frac{15}{100} \times \$16$$

$$= \$2.40$$

$$\text{Reduced cost} = \$16 - \$2.40$$

$$= \$13.60$$

$\textcircled{e}$ Last year	increase	This year
100%	25%	125%
$p = ?$		\$10

$$\frac{100\%}{p} = \frac{125\%}{\$10}$$

$$125p = 1000$$

$$p = \frac{1000}{125}$$

$$p = \$8$$