10. 3×4

$$\begin{matrix} P & A & P & Apl \end{matrix}$$
$$\begin{bmatrix} 152 & 225 & 395 & 277 \\ 236 & 183 & 245 & 183 \\ 95 & 132 & 0 & 285 \end{bmatrix} \cdot \begin{bmatrix} 27 \\ 15 \\ 34 \\ 17 \end{bmatrix} = \begin{bmatrix} 25618 \\ 20558 \\ 9340 \end{bmatrix}$$

Total revenue

$\therefore$ \$55,566

33. Two ways

#1 find inverse of $A = \begin{bmatrix} 2 & 1 \\ 3 & 4 \end{bmatrix}$

$$\begin{bmatrix} 2 & 1 \\ 3 & 4 \end{bmatrix}^{-1} = \frac{1}{8-3}\begin{bmatrix} 4 & -1 \\ -3 & 2 \end{bmatrix} = \frac{1}{5}\begin{bmatrix} 4 & -1 \\ -3 & 2 \end{bmatrix} = \begin{bmatrix} \frac{4}{5} & -\frac{1}{5} \\ -\frac{3}{5} & \frac{2}{5} \end{bmatrix} = \begin{bmatrix} 0.8 & -0.2 \\ -0.6 & 0.4 \end{bmatrix}$$

Inverses!

#2 AB should be $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$. And it is!

34. $AB = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ inverses!

35. $$\begin{bmatrix} 2 & 3 \\ 2 & 2 \end{bmatrix}^{-1} = \frac{1}{4-6}\begin{bmatrix} 2 & -3 \\ -2 & 2 \end{bmatrix} = \frac{1}{-2}\begin{bmatrix} 2 & -3 \\ -2 & 2 \end{bmatrix} = \begin{bmatrix} -1 & \frac{3}{2} \\ 1 & -1 \end{bmatrix}$$

36. $$\begin{bmatrix} 6 & 3 \\ 10 & 5 \end{bmatrix}^{-1} = \frac{1}{30-30}\begin{bmatrix} 5 & -3 \\ -10 & 6 \end{bmatrix} = \frac{1}{0}\begin{bmatrix} 5 & -3 \\ -10 & 6 \end{bmatrix}$$

↑ Determinant = 0

no inverse