

$$\underbrace{\left\{ \begin{array}{c} \overbrace{\hspace{1.5cm}}^n \\ \underbrace{\hspace{1.5cm}}_m \end{array} \right\}}_m = \underbrace{\left\{ \begin{array}{c} \overbrace{\hspace{1.5cm}}^n \\ \underbrace{\hspace{1.5cm}}_n \end{array} \right\}}_n$$

Diagram illustrating matrix dimensions and multiplication:

- A teal rectangular block labeled  $A$  with dimensions  $m$  (rows) and  $n$  (columns).
- A blue rectangular block labeled  $Q$  with dimensions  $n$  (rows) and  $n$  (columns).
- A yellow square block labeled  $R$  with dimensions  $n$  (rows) and  $n$  (columns).

The equation shows the product of matrix  $A$  and matrix  $Q$  equals matrix  $R$ .