

Multiplying Matrices Practice

$$2 \times 2 \checkmark 2 \times 2 \Rightarrow 2 \times 2$$

$$\begin{bmatrix} -5 & 5 \\ 5 & 1 \end{bmatrix} \cdot \begin{bmatrix} -4 & -1 \\ -4 & 2 \end{bmatrix}$$

$$\begin{bmatrix} \underline{20 + -20} & \underline{5 + 10} \\ \underline{-20 + -4} & \underline{-5 + 2} \end{bmatrix} = \begin{bmatrix} 0 & 15 \\ -24 & -3 \end{bmatrix}$$

Multiplying Matrices Practice

$$2 \times 3 \checkmark 3 \times 1 = 2 \times 1$$

$$\begin{bmatrix} -1 & -5 & -2 \\ -5 & 2 & 0 \end{bmatrix} \cdot \begin{bmatrix} -6 \\ 0 \\ 3 \end{bmatrix}$$

$$\begin{bmatrix} \underline{6 + 0 + -6} \\ \underline{30 + 0 + 0} \end{bmatrix} = \begin{bmatrix} 0 \\ 30 \end{bmatrix}$$

Multiplying Matrices Practice

$$\begin{matrix} 1 \times 2 & \times & 1 \times 2 \\ \left[\begin{array}{cc} 5 & -6 \end{array} \right] & \cdot & \left[\begin{array}{cc} -2 & -2 \end{array} \right] \end{matrix}$$

Impossible

Multiplying Matrices Practice

$$\begin{matrix} 2 \times 3 & \checkmark & 3 \times 1 \Rightarrow 2 \times 1 \\ \left[\begin{array}{ccc} -3 & -2 & -2 \\ 0 & -1 & 2 \end{array} \right] & \cdot & \left[\begin{array}{c} -6 \\ -1 \\ 4 \end{array} \right] \end{matrix}$$

$$\begin{bmatrix} \underline{18 + 2 + -8} \\ 0 + 1 + 8 \end{bmatrix} = \begin{bmatrix} 12 \\ 9 \end{bmatrix}$$

Multiplying Matrices Practice

$$\begin{array}{c}
 2 \times 3 \quad \times \quad 2 \times 1 \\
 \left[\begin{array}{ccc} -5 & 2 & 3 \\ 3 & 4 & 3 \end{array} \right] \cdot \left[\begin{array}{c} -1 \\ 0 \end{array} \right]
 \end{array}$$

Impossible

Multiplying Matrices Practice

$$\begin{array}{c}
 3 \times 2 \quad \checkmark \quad 2 \times 2 \Rightarrow 3 \times 2 \\
 \left[\begin{array}{cc} -5 & 6 \\ -6 & 0 \\ -2 & -5 \end{array} \right] \cdot \left[\begin{array}{cc} -2 & 4 \\ 3 & 3 \end{array} \right]
 \end{array}$$

$$\left[\begin{array}{cc}
 \underline{10+18} & \underline{-20+18} \\
 \underline{12+0} & \underline{-24+0} \\
 \underline{4+-15} & \underline{-6+-15}
 \end{array} \right] = \left[\begin{array}{cc}
 28 & -2 \\
 12 & -24 \\
 -11 & -23
 \end{array} \right]$$