Lesson 29: When Can We Reverse a Transformation?

Classwork

Opening Exercise

Find the inverse of $\left[\begin{matrix}-7&-2\\4&1\end{matrix}\right]$. Show your work. Confirm that the matrices are inverses.

Exercises

1. Find the inverse of $\left[\begin{matrix}5&3\\2&4\end{matrix}\right]$. Confirm your answer.

Find the inverse matrix and verify.

1. $\left[\begin{matrix}3&-3\\1&4\end{matrix}\right]$
2. $\left[\begin{matrix}5&-2\\4&-3\end{matrix}\right]$
3. $\left[\begin{matrix}a&c\\b&d\end{matrix}\right]$

**Example 1**

Find the determinant of $\left[\begin{matrix}1&2\\2&4\end{matrix}\right]$.

Problem Set

Find the inverse matrix of the following.

* 1. $\left[\begin{matrix}1&0\\0&1\end{matrix}\right]$
	2. $\left[\begin{matrix}0&1\\1&0\end{matrix}\right]$
	3. $\left[\begin{matrix}1&1\\1&1\end{matrix}\right]$
	4. $\left[\begin{matrix}1&0\\1&0\end{matrix}\right]$
	5. $\left[\begin{matrix}0&1\\0&1\end{matrix}\right]$
	6. $\left[\begin{matrix}-2&2\\-5&4\end{matrix}\right]$
	7. $\left[\begin{matrix}4&6\\5&8\end{matrix}\right]$
	8. $\left[\begin{matrix}6&-9\\5&-7\end{matrix}\right]$
	9. $\left[\begin{matrix}\frac{ 1 }{ 2 }&-\frac{2}{ 3 }\\-6&4\end{matrix}\right]$
	10. $\left[\begin{matrix}0.8&0.4\\-0.75&-0.5\end{matrix}\right]$