

## Additional Activities: Think-Share-Pair-Compare 2.2

1. Is  $P^{-1}AP = A$ ?

2. If the elementary matrix  $E = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & -2 & 1 \end{bmatrix}$  acts on  $B$  via left

multiplication, what row operation is  $E$ ? Write in usual notation.

3. How do invertible matrices relate to the number of solutions a matrix vector system has? Respond on pollev if you have tech:

- the invertibility or noninvertibility of a square matrix tells us how many solutions we have when consistent
- a matrix that isn't square (hence definitely not invertible) tells us how many solutions we have when consistent
- both of the above

4. In the 2.2 intro video, I mentioned a socks-shoes analogy to help us remember that  $(AB)^{-1} = B^{-1}A^{-1}$ . Create your own analogy to express what  $(ABC)^{-1}$ , for three matrices, is.

5. Lastly, review 2.2 and the fill-in guide, look at upcoming activities or chat until I bring us back together