Problem 1. **(1 point)**

Consider the following values of λ and $A-\lambda I$.

For which of the following are the indicated values of λ eigenvalues for the matrix A?

- A. $\lambda=-1, A-(-1)I=\begin{bmatrix} 6 & 1 \\ -11 & -2 \end{bmatrix}$
- B. $\lambda=-2, A-(-2)I=\begin{bmatrix} 4 & 0 \\ 1 & 0 \end{bmatrix}$
- C. $\lambda=2, A-(2)I=\begin{bmatrix} -1 & 1 \\ 2 & -3 \end{bmatrix}$
- D. $\lambda=1, A-(1)I=\begin{bmatrix} 1 & 1 \\ -4 & -4 \end{bmatrix}$

Answer(s) submitted:

- BD

submitted: (correct)
recorded: (correct)

Problem 2. **(1 point)**

If for a 2×2 matrix A we know that its trace is $\text{tr}(A)=-2$ and its determinant is $\det(A)=-15$, what are its eigenvalues?

$\lambda=$ _____

(Enter your answers as a comma-separated list.)

Answer(s) submitted:

- $-5,3$

submitted: (correct)
recorded: (correct)

Problem 3. **(1 point)**

Suppose that for a 5×5 matrix A we know its eigenvalues are $\lambda_1,\lambda_2,\lambda_3,\lambda_4,\lambda_5=-3,-1,2,3,4$. What are the trace and determinant of A?

$\text{tr}(A)=$ _____

$\det(A)=$ _____

Answer(s) submitted:

- 5
- 72

submitted: (correct)
recorded: (correct)