12.281

Namaswi-EE25BTECH11060

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Question

$\mathbf{A}$ is a 2×2 matrix with det $\mathbf{A} = 2$ .Then det $2\mathbf{A}$ is

Solution

As

$$\det(kA) = k^n \det(A) \tag{1}$$

Here, $n = 2$ and $k = 2$. Thus,

$$\det(2A) = 2^2 \cdot \det(A) \tag{2}$$
$$= 4 \cdot 2 \tag{3}$$
$$= 8 \tag{4}$$

C Code

```c
        #include <stdio.h>
int main() {
    double detA = 2.0;
    int n = 2;
    double k = 2.0;
    double det2A = detA * (k * k); // Since n = 2
    printf("Determinant of 2A is: %.0lf\n", det2A);
    return 0;
}
```