```python
import numpy as np

A = np.array([[1, 2], [3, 4]])
B = np.array([[5, 6], [7, 8]])

print("Addition:\n", A + B)
print("Subtraction:\n", A - B)
print("Multiplication:\n", np.dot(A, B))
print("Transpose:\n", A.T)
print("Determinant:", np.linalg.det(A))
```

```
Addition:
 [[ 6  8]
 [10 12]]
Subtraction:
 [[-4 -4]
 [-4 -4]]
Multiplication:
 [[19 22]
 [43 50]]
Transpose:
 [[1 3]
 [2 4]]
Determinant: -2.0000000000000004
```