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EX: Find $\left|2e^{j182^\circ}\right|$, (i.e., find the magnitude)

ANS: 2

SOL'N: The magnitude of a product is the product of the magnitudes:

$$\left|2e^{j182^\circ}\right| = \left|2\right| \cdot \left|e^{j182^\circ}\right|$$

The magnitude of a real number is the absolute value of that real number:

$$\left|2\right| = 2$$

The magnitude of e^{jx} for any real x is 1:

$$\left|e^{jx}\right| = 1$$

Thus we have:

$$\left|e^{j182^\circ}\right| = 1$$

Putting our results together gives the answer:

$$\left|2e^{j182^\circ}\right| = 2$$