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Questions

1. Which of the following statements about the number 1 is true?

A. 1 is a composite number.
B. 1 is the smallest prime number.
C. 1 is an even number.
D. 1 is the multiplicative identity in mathematics.

2. What is a key characteristic of an identity matrix in linear algebra?

A. An identity matrix is a 1x1 matrix.
B. An identity matrix has 1s on the main diagonal and 0s elsewhere.
C. An identity matrix consists only of zeros.
D. An identity matrix has all elements as 1s.

3. What is a key feature of the unit circle that makes it fundamental in trigonometry?

A. The unit circle has a circumference of pi.
B. The unit circle has a radius of one.
C. The unit circle is only used for angles in radians.
D. The unit circle is centered at the origin.

4. How is one Coulomb of electric charge defined in terms of current and time?

A. One Coulomb defines the magnetic flux in a circuit.
B. One Coulomb is the current of one Ampere flowing for one minute.
C. One Coulomb corresponds to one Volt of potential.
D. One Coulomb is defined as the charge of one Ampere per second.

5. What is the magnitude of a unit vector in mathematics?

A. Unit vectors have a magnitude of zero.
B. Unit vectors have a magnitude of one.
C. Unit vectors have a magnitude equal to pi.
D. Unit vectors have a magnitude of ten.

6. What distinguishes first-order linear differential equations in calculus?

A. First-order linear differential equations involve exponential steps.
B. First-order linear differential equations involve square roots.
C. First-order linear differential equations involve quadratic functions.
D. First-order linear differential equations involve derivatives to the first power.

7. What is the absolute value of both 1 and -1?

A. -1
B. -1
C. 0
D. 1