Quiz 2

True or False (1pt each)

1. Two related tables may share more than one column.
2. It is generally considered a good practice to leave a foreign key constraint unnamed.
3. When two tables are related, the one that holds the foreign key is known as the parent table, and the other is known as the child table.
4. Given two related tables, dropping the parent table will lead SQL to complain and stop you from performing such an action.
5. A LEFT JOIN will always return the same number of rows as the left (first) table, even if there are no matching rows in the right table.
6. An INNER JOIN between two tables will return more rows than a FULL OUTER JOIN between the same two tables when both tables have unmatched rows.

Multiple Choice (2pts each)

1. In relational database theory, what is a Cartesian Product?

A. A join operation that returns only rows that have matching values in both tables being joined.
B. A mathematical operation that combines every row from the first table with every row from the second table, regardless of any matching condition.
C. A type of join that returns all rows from the left table and only matching rows from the right table.
D. An operation that eliminates duplicate rows from the result set when combining two tables.

2. Consider the following two tables:

Customers Table:

customer_id	name	city
1	"John Smith"	"New York"
2	"Sarah Jones"	"Los Angeles"
3	"Mike Davis"	"Chicago"
4	"Lisa Wilson"	"Boston"

Orders Table:

order_id	customer_id	product	amount
101	1	"Laptop"	1200.00
102	1	"Mouse"	25.00
103	3	"Keyboard"	75.00
104	5	"Monitor"	300.00

What will be the result when you execute the following SQL query?

```
SELECT c.name, o.product, o.amount
FROM Customers c
INNER JOIN Orders o ON c.customer_id = o.customer_id;
```

A. 4 rows will be returned, including all customers with NULL values for customers who haven't placed orders.
B. 3 rows will be returned, showing only customers who have placed orders, excluding customers without orders and orders without valid customers.

C. 5 rows will be returned, including all orders even if the customer doesn't exist in the Customers table.
D. 2 rows will be returned, showing only customers who have placed multiple orders.