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Notes

- Negations of Multiply-Quantified Statements

$$\sim (\forall x \in D, \exists y \in E \ s.t. \ P(x,y)) \equiv \exists x \in D \ s.t. \ \forall y \in E, \sim P(x,y)$$

$$\sim (\exists x \in D \ s.t. \ \forall y \in E, P(x,y)) \equiv \forall x \in D, \exists y \in E \ s.t. \ \sim P(x,y)$$

Test Yourself

1. a y in E; y; $P(x,y)$
2. an x in D; y in E; $P(x,y)$
3. $\exists x \ s.t. \ \forall y, \ \sim P(x,y)$.
4. $\forall x, \ \exists y \ s.t. \ \sim P(x,y)$.
5. may be true or false (c).