

Exercise

- Let $Q(x)$ be the statement “ $x + 1 > 2x$ ” If the domain consists of all integers, what are these truth values?

1. $Q(0)$ true
2. $Q(-1)$ true
3. $\exists x Q(x)$ true
4. $\forall x Q(x)$ false
5. $\exists x \neg Q(x)$ true
6. $\forall x \neg Q(x)$ false

Exercise

- Let $Q(x,y)$ be the statement “ $x + y = x - y$ ” If the domain consists of all integers, what are these truth values?

1. $Q(1,1)$ false
2. $\forall y Q(1,y)$ false
3. $\exists x Q(x,2)$ false
4. $\exists x \exists y Q(x,y)$ true
5. $\forall x \exists y Q(x,y)$ true
6. $\forall y \exists x Q(x,y)$ false

Exercise

- Let statement $S(x,y)$ = “x is a student in y university”. Express the following statements:
 1. “All people are students in King Saud University”.
 - $\forall x S(x, \text{KSU})$
 2. “Every university in the world has students”.
 - $\forall y \exists x S(x,y)$