

Worksheet on Quantifiers
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1 Quantifiers

For each english sentence, write it in symbols: **no english words!** You can use such things as quantifiers (\exists , \forall), boolean operators (\sim , \wedge , \vee , \Rightarrow , \Leftrightarrow), etc.

1. The set X has 3 elements.
2. The number x is odd.
3. Every rational number is an integer.
4. Every integer is odd.
5. If $x \in \mathbb{Z}$, then x is odd.
6. If $x \in \mathbb{R}$, then $x \in \mathbb{Q}$.

7. There exists an odd integer.

8. There exists a subset of the integers of cardinality 3.

9. If X has 3 elements, then there exists a subset of X having 2 elements.

10. For every integer, there's an additive inverse (something which adds to it to give 0).