*31. Consider the following 16 assertions, where $\exists$ means "there exists," $\forall$ means "for any" and $\ni$ means "such that":

1) $\exists \varepsilon > 0 \; \exists k \; \exists n > k \ni |x_n - a| < \varepsilon$;

2) $\exists \varepsilon > 0 \; \exists k \; \exists n > k \ni |x_n - a| \geqslant \varepsilon$;

3) $\exists \varepsilon > 0 \; \exists k \; \forall n > k \ni |x_n - a| < \varepsilon$;

4) $\exists \varepsilon > 0 \; \exists k \; \forall n > k \ni |x_n - a| \geqslant \varepsilon$;

5) $\exists \varepsilon > 0 \; \forall k \; \exists n > k \ni |x_n - a| < \varepsilon$;

6) $\exists \varepsilon > 0 \; \forall k \; \exists n > k \ni |x_n - a| \geqslant \varepsilon$;

7) $\exists \varepsilon > 0 \; \forall k \; \forall n > k \ni |x_n - a| < \varepsilon$;

8) $\exists \varepsilon > 0 \; \forall k \; \forall n > k \ni |x_n - a| \geqslant \varepsilon$;

9) $\forall \varepsilon > 0 \; \exists k \; \exists n > k \ni |x_n - a| < \varepsilon$;

10) $\forall \varepsilon > 0 \; \exists k \; \exists n > k \ni |x_n - a| \geqslant \varepsilon$;

11) $\forall \varepsilon > 0 \; \exists k \; \forall n > k \ni |x_n - a| < \varepsilon$;

12) $\forall \varepsilon > 0 \; \exists k \; \forall n > k \ni |x_n - a| \geqslant \varepsilon$;

13) $\forall \varepsilon > 0 \; \forall k \; \exists n > k \ni |x_n - a| < \varepsilon$;

14) $\forall \varepsilon > 0 \; \forall k \; \exists n > k \ni |x_n - a| \geqslant \varepsilon$;

15) $\forall \varepsilon > 0 \; \forall k \; \forall n > k \ni |x_n - a| < \varepsilon$;

16) $\forall \varepsilon > 0 \; \forall k \; \forall n > k \ni |x_n - a| \geqslant \varepsilon$.

Interpret these assertions in terms of familiar properties of sequences or their negatives.

Answer. 1) Every sequence $\{x_n\}$ has this property; 2) Not every term of $\{x_n\}$ equals a; 3) The sequence $\{x_n\}$ is bounded; 4) The point a is not a limit point of $\{x_n\}$; 5) The sequence $\{x_n\}$ does not approach infinity; 6) The number a is not the limit of $\{x_n\}$;