$x_1| + |x_2| + \cdots + |x_n| = 19 + |x_1 + x_2 + \cdots + x_n| < n$

$n \geq 20 \qquad\qquad n = 20 \qquad x_{2k-1} = \dfrac{19}{20}$

$x_{2k} = -\dfrac{19}{20}$

$\left|\dfrac{19}{20}\right| + \left|-\dfrac{19}{20}\right| + \cdots + \left|-\dfrac{19}{20}\right| = 20\left(\dfrac{19}{20}\right) = 19$

$19 + \left|\dfrac{19}{20} - \dfrac{19}{20} + \cdots - \dfrac{19}{20}\right| = 19 + 0 = 19$

$n = 020$

$A \ B \qquad C$

$A \qquad B \qquad U$

$A \qquad \dbinom{8}{3} \qquad\qquad\qquad B$

$\dbinom{5}{3}$

C

$\dbinom{8}{3} \cdot \dbinom{5}{3} = 560$

$A \qquad B \qquad U$

$\dfrac{8!}{3! \cdot 3! \cdot 2!} = \boxed{560}$

$$1, 2, 3, 4, 5, 6, 7, 8, 9.$$

$$2^9 = 512$$

$$\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$$

$$512 - 10 = \boxed{502}.$$