

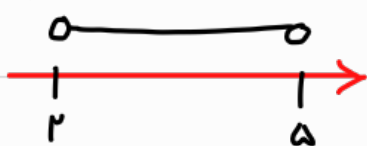


بازه‌ها

بازه در واقع زیر مجموعه‌ای از اعداد حقیقی است.

✓ مفهوم بازه ✓ احتمال رو با بازه‌ها ✓ نمایش متفاوت بازه‌ها

$$A = \{x | x \in \mathbb{R}, 2 < x < 5\} = (2, 5)$$



- اعداد بین ۲ و ۵ ← $\{x, \varepsilon\}$



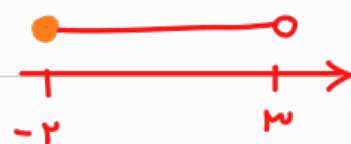
$$B = \{x | x \in \mathbb{R}, 2 \leq x \leq 5\} = [2, 5]$$

- از عدد ۲ تا ۵



(EX) $A = \{x \mid x \in \mathbb{R}, -2 \leq x \leq 3\} = [-2, 3]$

(EX) $B = \{x \mid x \in \mathbb{R}, -2 \leq x < 3\} = [-2, 3)$

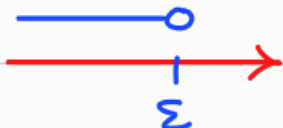


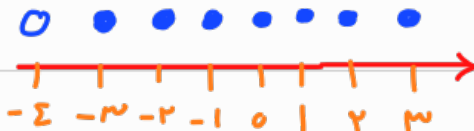
(EX) $C = \{x \mid x \in \mathbb{R}, -2 < x \leq 3\} = (-2, 3]$

(EX) $D = \{x \mid x \in \mathbb{R}, -2 < x < 3\} = (-2, 3)$

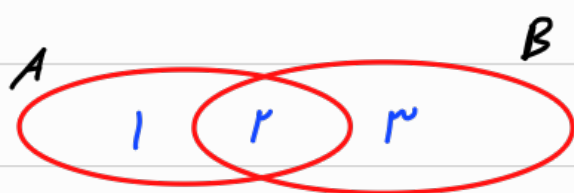


(EX) $E = \{x | \underline{x \in \mathbb{R}}, x \geq -1\}$  $[-1, +\infty)$

(EX) $F = \{x | \underline{x \in \mathbb{R}}, x < \varepsilon\}$  $(-\infty, \varepsilon)$

(EX) $G = \{x | \underline{x \in \mathbb{Z}}, -\varepsilon < x \leq \nu\}$ 

$G = \{-3, -2, -1, 0, 1, 2, 3\}$



$\text{مثال: } \{1, 2\} - \{2, 3\} = \{1\}$

$A = \{1, 2\}$

$A \cap B = \{2\}$

$B = \{2, 3\}$

$A \cup B = \{1, 2, 3\}$

خالص A

$\widehat{A - B} = \{1\} = \{1, 2\} - \{2, 3\}$

خالص B

$\widehat{B - A} = \{3\} = \{2, 3\} - \{1, 2\}$



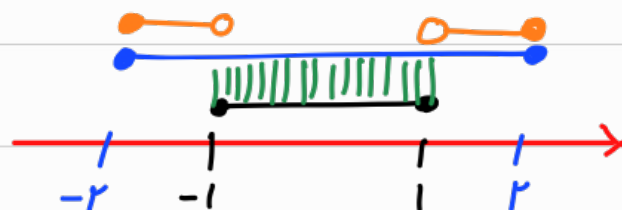
(EX) $A = [-1, 1]$ و $B = [-2, 2]$

$$A \cup B = [-2, 2]$$

$$A \cap B = [-1, 1]$$

$$A - B = \emptyset$$

$$B - A = [-2, -1) \cup (1, 2]$$



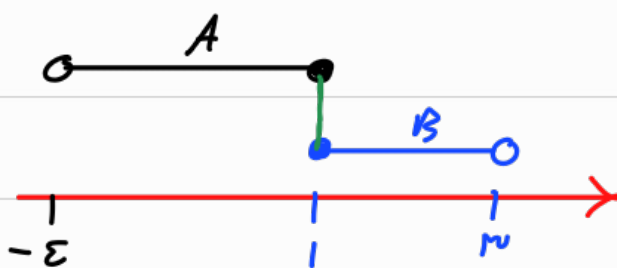
(EX) $A = (-\infty, 1]$ و $B = [1, \infty)$

$$A \cap B = \{1\}$$

$$A \cup B = (-\infty, \infty)$$

$$A - B = (-\infty, 1)$$

$$B - A = (1, \infty)$$





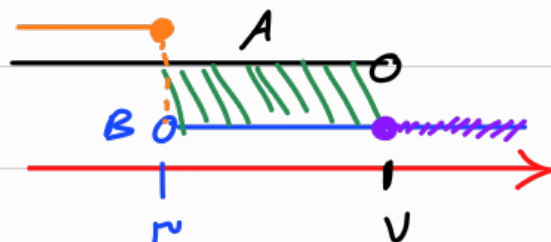
(EX) $A = (-\infty, v)$, $B = (r, +\infty)$

$A \cap B = (r, v)$

$A \cup B = (-\infty, +\infty) = \mathbb{R}$

$A - B = (-\infty, r]$

$B - A = [v, +\infty)$



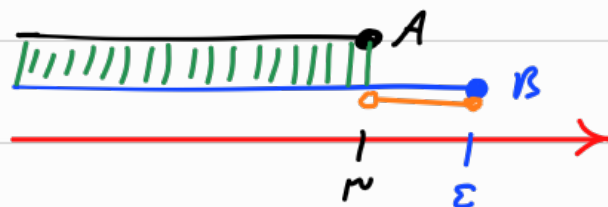
(EX) $A = (-\infty, r]$, $B = (-\infty, \varepsilon]$

$A \cap B = (-\infty, r]$

$A \cup B = (-\infty, \varepsilon]$

$A - B = \emptyset$

$B - A = (r, \varepsilon]$

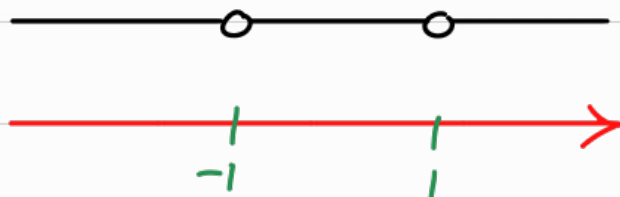




(EX) $\mathbb{R} - \{0\} = (-\infty, 0) \cup (0, +\infty)$

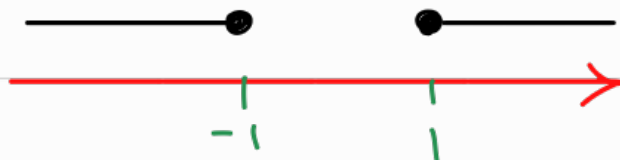


(EX) $\mathbb{R} - [-1, 1] = (-\infty, -1) \cup (-1, 1) \cup (1, +\infty)$





(EX) $\mathbb{R} - (-1, 1) = (-\infty, -1] \cup [1, +\infty)$



(EX) $\mathbb{R} - (-1, 1] = (-\infty, -1] \cup (1, +\infty)$



$\mathbb{R} - [-r, \varepsilon) = (-\infty, -r) \cup [\varepsilon, +\infty)$