

## Section 1.2 The Real Number Line

1. If  $x \in [-3, \infty)$ , then

- (a)  $x > -3$
- (b)  $x \geq -3$
- (c)  $x < -3$
- (d)  $x \leq -3$

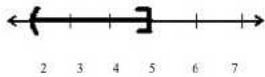
2. If  $x$  is positive, then

- (a)  $x > 0$
- (b)  $x \geq 0$
- (c)  $x < 0$
- (d)  $x \leq 0$

3. If  $x \in (-2, 1]$ , then

- (a)  $-2 \leq x < 1$
- (b)  $-2 < x \leq 1$
- (c)  $-2 > x \geq 1$
- (d)  $-2 < x \geq 1$

4. Which inequality corresponds to this graph?



- (a)  $2 \leq x \leq 5$
- (b)  $2 < x \leq 5$
- (c)  $2 \leq x < 5$
- (d)  $2 < x < 5$

5. Translate:  $x$  is greater than  $-15$  and at most  $13$ .
- (a)  $-15 > x \geq 13$
  - (b)  $-15 \leq x \leq 13$
  - (c)  $-15 < x < 13$
  - (d)  $-15 < x \leq 13$
6. If  $-2 < x \geq 3$ , then
- (a)  $x \in (-2, 3]$
  - (b)  $x \in (-\infty, -2) \cup [3, \infty)$
  - (c)  $x \in [-2, 3)$
  - (d) this is not possible
7. **Sense or Nonsense:**  $-4 > x < 1$
- (a) I am confident that this makes sense.
  - (b) I think this makes sense, but I am not certain.
  - (c) I think this is nonsense, but I am not certain.
  - (d) I am confident that this is nonsense.
8. **Sense or Nonsense:**  $0 \geq x \geq 2$
- (a) I am confident that this makes sense.
  - (b) I think this makes sense, but I am not certain.
  - (c) I think this is nonsense, but I am not certain.
  - (d) I am confident that this is nonsense.
9. **Sense or Nonsense:**  $-4 < x \leq 1$
- (a) I am confident that this makes sense.
  - (b) I think this makes sense, but I am not certain.
  - (c) I think this is nonsense, but I am not certain.
  - (d) I am confident that this is nonsense.
10. If  $-4 > x \geq 3$ , then

- (a)  $x \in (-4, 3]$
- (b)  $x \in (-\infty, -4) \cup [3, \infty)$
- (c)  $x \in [-4, 3)$
- (d) this is not possible

11. **Sense or Nonsense:**  $[-8, 2]$

- (a) I am confident that this makes sense.
- (b) I think this makes sense, but I am not certain.
- (c) I think this is nonsense, but I am not certain.
- (d) I am confident that this is nonsense.

12. **Sense or Nonsense:**  $(-\infty, 2]$

- (a) I am confident that this makes sense.
- (b) I think this makes sense, but I am not certain.
- (c) I think this is nonsense, but I am not certain.
- (d) I am confident that this is nonsense.

13. **Sense or Nonsense:**  $(\infty, 10]$

- (a) I am confident that this makes sense.
- (b) I think this makes sense, but I am not certain.
- (c) I think this is nonsense, but I am not certain.
- (d) I am confident that this is nonsense.