

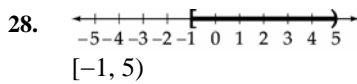
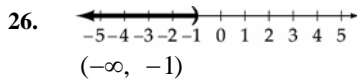
1.  $-\frac{1}{5}$ : rational, real; 0: integer, rational, real; -44: integer, rational, real;  $\pi$ : irrational, real; 3.14: rational, real; 5.05005000500005...: irrational, real;  $\sqrt{81} = 9$ : integer, rational, prime, real; 53: integer, rational, prime, real

4. Let  $x = 0, 1, 2, 3$ . (We could have used  $x = -3, -2, -1, 0$ .) Then  $\{|x| \mid x \text{ is an integer}\} = \{0, 1, 2, 3\}$

8. Let  $x = -1, -2, -3, -4$ . Then  $\{z/z = |x| - x, x \text{ is a negative integer}\} = \{2, 4, 6, 8\}$

14.  $(A \cap C) = \{0, 1, 2, 3\}$   
 $B \cup (A \cap C) = \{-2, 0, 1, 2, 3, 4, 6\}$

18.  $(A \cap C) \cup (B \cap D) = \{0, 1, 2, 3\} \cup \emptyset = \{0, 1, 2, 3\}$

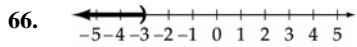
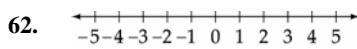


36.  $10 - \pi^2$

40.  $|x + 1| + |x - 3| = (x + 1) + (x - 3) = 2x - 2$

44.  $|z - 5| = 1$

49.  $|x + 2| > 4$



76.  $\frac{2(3)(-2)^2(-1)^4}{[-2 - (-1)]^4} = \frac{2(3)(4)(1)}{(-2 + 1)^4} = \frac{24}{(-1)^4} = 24$

82.  $6 + (7 + a) = 6 + (a + 7)$   
 Commutative Property of Addition

105.  $5a - 2[3 - 2(4a + 3)]$   
 $5a - 2(3 - 8a - 6)$   
 $5a - 2(-8a - 3)$   
 $5a + 16a + 6$   
 $21a + 6$

126.  $\left| \frac{x+3}{\left| x - \frac{1}{2} \right| + \left| x + \frac{1}{2} \right|} \right| = \frac{|x+3|}{\left| \left| x - \frac{1}{2} \right| + \left| x + \frac{1}{2} \right| \right|} = \frac{x+3}{\left| -\left(x - \frac{1}{2}\right) + \left(x + \frac{1}{2}\right) \right|} = \frac{x+3}{\left| \frac{1}{2} + \frac{1}{2} \right|} = x+3$