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Online Homework

Focused Exercises for Math SAT

Skill Set 26: Algebra - Inequalities

Many of the problems in this exercise set came from The College Board, writers of the SAT exam.

1. If $3b + 1 < 10$, which of the following CANNOT be the value of b ?
 - (A) -1
 - (B) 0
 - (C) 1
 - (D) 2
 - (E) 3

2. If $3 < x < 7$ and $4 < y < 7$, which of the following best describes the range of values of $x - y$?
 - (A) $-4 < x - y < 3$
 - (B) $0 < x - y < 4$
 - (C) $3 < x - y < 4$
 - (D) $3 < x - y < 7$
 - (E) $4 < x - y < 7$

3. For which of the following values of k will the value of $3k - 1$ be greater than 10?
 - (A) 4
 - (B) 3
 - (C) 2
 - (D) 1
 - (E) 0

4. What is one possible value of x for which $x < 2 < \frac{1}{x}$?

5. If x and y are positive integers, $x + y < 15$, and $x > 5$, what is the greatest possible value of $x - y$?

6. There are 8 sections of seats in an auditorium. Each section contains at least 150 seats but no more than 200 seats. Which of the following could be the number of seats in this auditorium?
 - (A) 800
 - (B) 1,000
 - (C) 1,100
 - (D) 1,300
 - (E) 1,700

7. Todd is older than Marta but younger than Susan. If t , m , and s represent the ages, in years, of Todd, Marta, and Susan, respectively, which of the following is true?
- (A) $m < t < s$
 - (B) $s < m < t$
 - (C) $s < t < m$
 - (D) $t < m < s$
 - (E) $t < s < m$
8. For which of the following ordered pairs (s, t) is $s + t > 2$ and $s - t < -3$?
- (A) $(3, 2)$
 - (B) $(2, 3)$
 - (C) $(1, 8)$
 - (D) $\left(\frac{1}{2}, \frac{3}{2}\right)$
 - (E) $(0, 3)$
9. If r , s , and t are integers greater than 1, where $rs = 15$ and $st = 33$, which of the following must be true?
- (A) $t > r > s$
 - (B) $s > t > r$
 - (C) $s > r > t$
 - (D) $r > t > s$
 - (E) $r > s > t$
10. $8 < x < 12$
 $12 < y < 15$

If x and y are integers that satisfy the conditions above, what is one possible value of xy ?