Inequalities

**June 2015**

2. Which of the following inequalities orders the numbers 0.2, 0.03, and ¼ from least to greatest?

1. 0.2 < 0.03 < ¼
2. 0.03 < 0.2 < ¼
3. 0.03 < ¼ < 0.2
4. ¼ < 0.03 < 0.2
5. ¼ < 0.2 < 0.03

23. Given that x ≤ 4 and x + y ≥ 5, what is the LEAST value that y can have?

1. -9
2. -1
3. 0
4. 1
5. 9

29. Which of the following inequalities is equivalent to -2x - 6y > 2y - 4?

1. x < -4y + 2
2. x > -4y + 2
3. x < 2y + 2
4. x < 4y + 2
5. x > 4y + 2

55. The shaded portion of the graph in the standard (x, y) coordinate plane below represents the solution set of one of the following systems of linear inequalities. Which one?

1. y ≤ (⅔)x - 6 and y ≥ (-3/2)x + 6
2. y ≥ (⅔)x - 6 and y ≥ (-3/2)x + 6
3. y ≥ (⅔)x - 6 and y ≤ (-3/2)x + 6
4. y ≤ (3/2)x - 6 and y ≥ (-2/3)x + 6
5. y ≥ (3/2)x - 6 and y ≤ (-2/3)x + 6

\*\*\*\*\*picture\*\*\*\*

**December 2015**

52. One of the following inequalities is graphed below in the standard (x,y) coordinate plane. Which one?

1. y ≤ x - 3
2. y ≥ x - 3
3. y ≥ x + 3
4. y ≤ 3x - 3
5. y ≥ 3x – 3

\*\*\*\*\*picture\*\*\*\*

**June 2016**

55. When 3 ≤ x ≤ 5 and 7 ≤ y ≤ 9, the smallest possible value for 2/(y - x) is:

1. 7/9
2. ⅙
3. ¼
4. ⅓
5. ½

**April 2016**

21. Given that x ≤ 2 and x + y ≥ 4, what is the LEAST value that y can have?

1. -6
2. -2
3. 0
4. 2
5. 6

**June 2017**

12. A new club wants to attract customers who are at least 18 but less than 30 years of age. One of the number lines below illustrates the range of ages, in years, of the customers the club wants to attract. Which number line is it?

1. Picture
2. Picture
3. Picture
4. Picture
5. picture

19. Which of the following ordered pairs in the standard (x,y) coordinate plane satisfies the system of inequalities below? x > 2 y > 0 x + y < 5

1. (1,3)
2. (2,2)
3. (3,1)
4. (3,2)
5. (4,0)

56. Each of the following graphs in the standard (x,y) coordinate plane has the same scale on both axes. One graph is the graph of ax + by ≤ c, where ) < a < b < c. Which one is it?

1. Picture
2. Picture
3. Picture
4. Picture
5. picture