

GMAT Prep

Inequalities, AV and Exponents

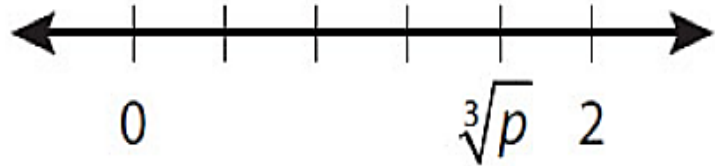


Inequalities and Exponents



Inequalities and Exponents

1.



In the number line above, what is the value of p ?

- A. $3/2$
- B. $8/5$
- C. $24/15$
- D. $512/125$
- E. $625/256$

Inequalities and Exponents

2. If $6 < 2x - 4 < 12$, which of the following may be the value of x ?

A. 4

B. 5

C. 7

D. 8

E. 9



Inequalities and Exponents

3. If $|1 - x| = 6$ and $|2y - 6| = 10$, which of the following could be the value of xy ?
- A. -50
 - B. -14
 - C. -10
 - D. 58
 - E. 40



Inequalities and Exponents

4. If $2^2 < \frac{x}{(2^6 - 2^4)} < 2^3$, which of the following could be the value of x ?

- A. 24
- B. 64
- C. 80
- D. 128
- E. 232



Inequalities and Exponents

5. If a and b are positive integers, x and y are negative integers, and if $a > b$ and $x > y$ which of the following must be less than zero?

I. $b - a$

II. by

III. $a + x$

A. I only

B. II only

C. III only

D. I and II only

E. I, II, and III



Inequalities and Exponents

6. If a , b , and c are positive numbers, $a > b$ and $b > c$, then which of the following must be true?
- A. $\frac{1}{a} > \frac{1}{b}$
 - B. $-a > -c$
 - C. $a - b > b - c$
 - D. $\frac{1}{c} > \frac{1}{a}$
 - E. None of the above



Inequalities and Exponents

7. If $x = (0.08)^2$, $y = \frac{1}{(0.08)^2}$, and $z = (1 - 0.08)^2 - 1$, which of the following is true?

A. $x = y = z$

B. $y < z < x$

C. $z < x < y$

D. $y < x$ and $x = z$

E. $x < y$ and $x = z$



Inequalities and Exponents

8. If x is positive, which of the following could be correct ordering of $\frac{1}{x}$, $2x$ and x^2 ?

I. $x^2 < 2x < \frac{1}{x}$

II. $x^2 < \frac{1}{x} < 2x$

III. $2x < x^2 < \frac{1}{x}$

A. I only

B. III only

C. I and II only

D. I, II, and III

E. None



Inequalities and Exponents

9. If $|2x - 3| < 9$, then x must be between?

A. -6 and 12

B. -5 and 10

C. -3 and 4

D. -3 and 6

E. 3 and 9



Inequalities and Exponents

10. If

$$-2 \leq x \leq 1,$$

$$-3 \leq y \leq 4,$$

$$-5 \leq z \leq 6,$$

then what is the minimum value of $\frac{xy}{z}$?

A. -8

B. -3

C. $-\frac{6}{5}$

D. $-\frac{4}{3}$

E. $-\frac{4}{5}$



Inequalities and Exponents

11. $x^3 + 3x^2 \leq 0$, then x CANNOT be which of the following?

A. -10

B. -9

C. -4

D. -3

E. -1



Inequalities and Exponents

12. If p and q are integers such that $6 < q < 17$ and $\frac{p}{q} = \frac{3}{4}$, how many possible values are there for p ?

A. 2

B. 3

C. 4

D. 5

E. 6



Inequalities and Exponents

13. If $|\frac{x}{4} + 1| < 3$, which of the following must be true?

A. $x > 0$

B. $x < 2$

C. $x > -10$

D. $-8 < x < 8$

E. $x < -2$



Inequalities and Exponents

14. $\sqrt{x} < x < x^2$
In the above inequality, which of the following can be true?

A. $x < 0$

B. $0 < x < 1$

C. $x > 1$

D. $x < -1$

E. $-1 < x < 1$



Inequalities and Exponents

15. If a and b are both negative numbers such that $|2a - 3| = 5$ and $|3 - 4b| = 11$. What is $|b - a|$?

A. -1

B. 0

C. 1

D. 2

E. 3



Inequalities and Exponents

16. If $a^4 + b^4 = 100$, then the greatest possible value of a is between

- A. 0 and 3
- B. 3 and 6
- C. 6 and 9
- D. 9 and 12
- E. 12 and 15



Inequalities and Exponents

17. If $|3x + 7| \geq 2x + 12$, then which of the following is true?

A. $x \leq \frac{-19}{5}$

B. $x \geq \frac{-19}{5}$

C. $x \geq 5$

D. $x \leq \frac{-19}{5}$ or $x \geq 5$

E. $\frac{-19}{5} \leq x \leq 5$



Inequalities and Exponents

18. If $(x^{20}y^{15})^3 / (y^{40}x^{60}) = x^a y^b$, what is the value of b^a ?

A. -2

B. -1

C. 0

D. 1

E. 2



Inequalities and Exponents

19. What is the minimum positive value of $|15x + 20y|$, where x and y are different integers?
- A. 0
 - B. 1
 - C. 5
 - D. 10
 - E. 15



Inequalities and Exponents

20. If $x^2 + x - 6 < 0$, what is the number of possible values of integer x which satisfy the given inequality?
- A. 1
 - B. 2
 - C. 3
 - D. 4
 - E. 5





Thank you