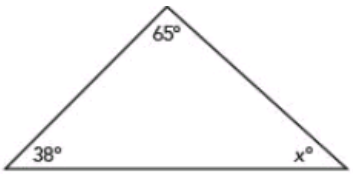
GRE - Quant Diagnostic Test

1.



Quantity A: x
Quantity B: 87°

a. The quantity in Column A is greater.
b. The quantity in Column B is greater.
c. The two quantities are equal.
d. The relationship cannot be determined from the information given.

2.

Quantity A: The average (arithmetic mean) of 16, 23, and 52
Quantity B: The average (arithmetic mean) of 15, 24, and 51

a. The quantity in Column A is greater.
b. The quantity in Column B is greater.
c. The two quantities are equal.
d. The relationship cannot be determined from the information given.

3. x = 4

Quantity A: $3x^4$
Quantity B: 750

a. The quantity in Column A is greater.
b. The quantity in Column B is greater.
c. The two quantities are equal.
d. The relationship cannot be determined from the information given.

4. A rectangular box is 5 feet wide and 6 feet high and has a volume of 120 cubic feet.

Quantity A: 4 feet
Quantity B: The length of the box

a. The quantity in Column A is greater.
b. The quantity in Column B is greater.
c. The two quantities are equal.
d. The relationship cannot be determined from the information given.

5.

Quantity A: The probability of tossing two "Tails" in a row with a fair coin
Quantity B: The probability of pulling out a red colored piece of candy from a bag containing 3 blue, 4 red, and 5 yellow pieces of candy.

a. The quantity in Column A is greater.
b. The quantity in Column B is greater.
c. The two quantities are equal.
d. The relationship cannot be determined from the information given.

6.

Quantity A: The number of hours in a week
Quantity B: The number of months in 14 years

a. The quantity in Column A is greater.
b. The quantity in Column B is greater.

c. The two quantities are equal.
d. The relationship cannot be determined from the information given.

7.

Quantity A: The standard deviation of test scores of five students who score 71, 75, 83, 89, and 77
Quantity B: The standard deviation of test scores of five students who score 81, 85, 93, 99, and 87

a. The quantity in Column A is greater.
b. The quantity in Column B is greater.
c. The two quantities are equal.
d. The relationship cannot be determined from the information given.

8.

Quantity A: 15 percent of 90
Quantity B: 90 percent of 15

a. The quantity in Column A is greater.
b. The quantity in Column B is greater.
c. The two quantities are equal.
d. The relationship cannot be determined from the information given.

9.

Quantity A: $n^2(n^3)^5$
Quantity B: $(n^5)^2$

a. The quantity in Column A is greater.
b. The quantity in Column B is greater.
c. The two quantities are equal.
d. The relationship cannot be determined from the information given.

10.

Quantity A: The perimeter of a rectangle whose width is 6 cm. and whose diagonal measures 10 cm.
Quantity B: The perimeter of an equilateral triangle in which one side length is 10 cm.

a. The quantity in Column A is greater.
b. The quantity in Column B is greater.
c. The two quantities are equal.
d. The relationship cannot be determined from the information given.

11. $9x - 2y = 16$
$3x + 7y = 82$
Quantity A: $x + y$
Quantity B: 10

a. The quantity in Column A is greater.
b. The quantity in Column B is greater.
c. The two quantities are equal.
d. The relationship cannot be determined from the information given.

12. In the rectangular coordinate plane, points A, B, and C have coordinates (8, 9), (5, 9), and (5, 6), respectively.
Quantity A: AB
Quantity B: AC

a. The quantity in Column A is greater.
b. The quantity in Column B is greater.
c. The two quantities are equal.
d. The relationship cannot be determined from the information given.

13. x is an integer greater than 2.
Quantity A: 3^{2x-3}
Quantity B: 3^{x}

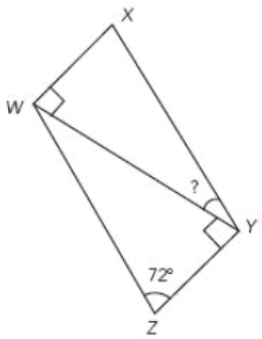
    a. The quantity in Column A is greater.
    b. The quantity in Column B is greater.
    c. The two quantities are equal.
    d. The relationship cannot be determined from the information given.

14.
Quantity A: The cost of p apples at a cost of r + 7 cents each
Quantity B: The cost of 7 peaches at a cost of (p + r) cents each

    a. The quantity in Column A is greater.
    b. The quantity in Column B is greater.
    c. The two quantities are equal.
    d. The relationship cannot be determined from the information given.

15. For senior class pictures, a photographer charges x dollars to make a negative, $7x/10$ dollars for each of the first 20 prints, and $x/10$ dollars for each print in excess of 20 prints. If $80 is the total charge to make a negative and 30 prints, what is the value of x?
    a. 3
    b. 4
    c. 5
    d. 6
    e. 7

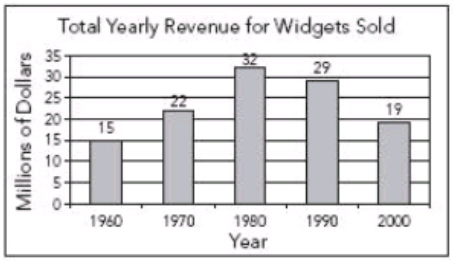
16. If Tom traveled 45 miles in 12 hours and Jim traveled four times as far in one-third the time, what was Jim's average speed, in miles per hour?
    a. 5
    b. 15
    c. 30
    d. 45
    e. 90

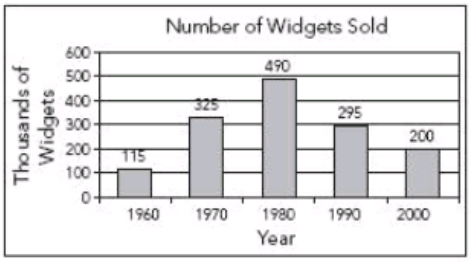


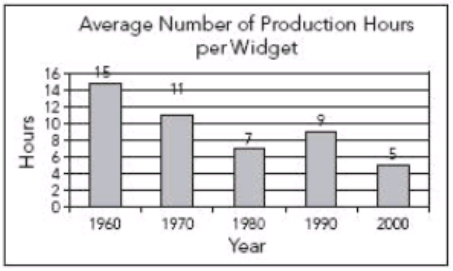
17. In parallelogram WXYZ shown above, WY is perpendicular to YZ and the measure of angle WZY is 72°. What is the measure of angle XYW?
    a. 12°
    b. 18°
    c. 36°
    d. 58°
    e. 72°

18. Which of the following is equivalent to the inequality $3x - 6 > 6x + 9$?
    a. $x > -5$
    b. $x < -5$
    c. $x > -2$
    d. $x < 3$
    e. $x > 3$
19. You know that x is a positive integer. Which of the following statements individually provide(s) sufficient additional information to determine whether the square root of x is also an integer? select all that are correct
    a. x is the square of an integer.
    b. The square root of x is the square of an integer.
    c. $0 < x < 10$

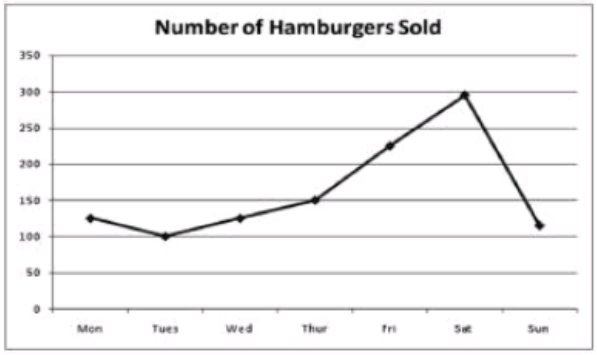
Question 20-22:



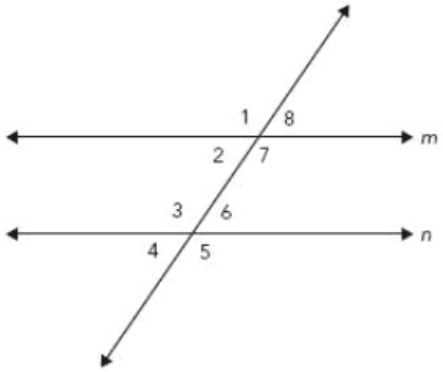




20. In 1990, the total revenue for widgets sold was about how many times as great as the number of widgets sold?
    a. 3
    b. 10
    c. 65
    d. 98
    e. 120
21. The percent decrease in average number of production hours per widget from 1990 to 2000 was approximately
    a. 44%
    b. 36%
    c. 34%
    d. 32%
    e. 27%
22. In how many of the years shown was the number of widgets sold at least three times the number of widgets sold in 1960?
    a. Four
    b. Three
    c. Two
    d. One
    e. None



23. The number of hamburgers sold at a stand near the beach for a given week in the summer is shown in the previous graph. Approximately what was the ratio of hamburgers sold on the weekdays (Monday through Friday) to hamburgers sold on the weekend (Saturday and Sunday)?
    a. 2:5
    b. 16:29
    c. 3:4
    d. 29:16
    e. 5:2



24. In the figure above, m // n. Which of the angles are supplementary to ∠1 ?
    a. ∠2
    b. ∠3
    c. ∠5
    d. ∠6
    e. ∠7
25. A sub sandwich and a soda at a basketball game's concession stand costs $3.40. A family purchases three sub sandwiches and two sodas, and the total cost is $9.10. What is the cost of a soda?
    a. $1.00
    b. $1.10
    c. $1.15
    d. $1.20
    e. $1.40