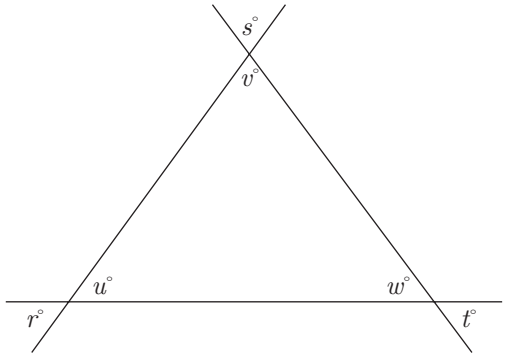
Question 1 of 26

Quantity A	**Quantity B**
$\frac{9}{10} - \frac{8}{9}$	$\frac{8}{9} - \frac{9}{10}$

- ○ Quantity A is greater.
- ○ Quantity B is greater.
- ○ The two quantities are equal.
- ○ The relationship cannot be determined from the information given.

Question 2 of 26



Quantity A	**Quantity B**
$r + t + v$	$s + u + w$

- ○ Quantity A is greater.
- ○ Quantity B is greater.
- ○ The two quantities are equal.
- ○ The relationship cannot be determined from the information given.

Question 3 of 26

$$x > 0$$
$$\frac{2x}{3} < 7$$

Quantity A	**Quantity B**
x^2	100

- ○ Quantity A is greater.
- ○ Quantity B is greater.
- ○ The two quantities are equal.
- ○ The relationship cannot be determined from the information given.

Question 4 of 26

k is an integer such that $9(3)^3 + 4 = k$

Quantity A	**Quantity B**
The average of the prime factors of k	16

- ○ Quantity A is greater.
- ○ Quantity B is greater.
- ○ The two quantities are equal.
- ○ The relationship cannot be determined from the information given.

Question 5 of 26

A bakery can purchase flour at \$1.89 per pound or at a bulk rate of 50 pounds for \$90.00.

Quantity A	**Quantity B**
The amount saved per pound by purchasing 50 pounds of flour at the bulk rate	\$0.09

- ○ Quantity A is greater.
- ○ Quantity B is greater.
- ○ The two quantities are equal.
- ○ The relationship cannot be determined from the information given.

Question 6 of 26

$$x = ((24 \mid 6) + 2) \cdot 5$$
$$y = (24 \mid (6 + 2)) \cdot 5$$

Quantity A	**Quantity B**
$x - y$	$y - x$

- ○ Quantity A is greater.
- ○ Quantity B is greater.
- ○ The two quantities are equal.
- ○ The relationship cannot be determined from the information given.

Question 7 of 26

$$32 = |k|$$
$$31 = |k + 1|$$

Quantity A	**Quantity B**
k	32

- ○ Quantity A is greater.
- ○ Quantity B is greater.
- ○ The two quantities are equal.
- ○ The relationship cannot be determined from the information given.

Question 8 of 26

Alice weighs a kilograms, and Bob weighs b kilograms less than Alice.

$$ab \neq 0$$

Quantity A	**Quantity B**
The sum of Alice's weight and Bob's weight	$2a$ kilograms

- ○ Quantity A is greater.
- ○ Quantity B is greater.
- ○ The two quantities are equal.
- ○ The relationship cannot be determined from the information given.

Question 9 of 26

$$0 < xy$$

Quantity A	**Quantity B**
$\frac{5}{2x} - \frac{2}{2y}$	$\frac{5y - 2x}{2x - 2y}$

- ○ Quantity A is greater.
- ○ Quantity B is greater.
- ○ The two quantities are equal.
- ○ The relationship cannot be determined from the information given.

Question 10 of 26

If $x^* = x^2 + 4$, which of the following is equivalent to 2^* ?

- ○ $(-2)^*$
- ○ 0^*
- ○ 4^*
- ○ 6^*
- ○ 8^*

Question 11 of 26

Which of the following is greater than $\frac{2}{3}$ and less than $\frac{5}{6}$?

Indicate <u>all</u> such values.

- ☐ $\frac{11}{18}$
- ☐ $\frac{13}{18}$
- ☐ $\frac{3}{4}$
- ☐ $\frac{7}{9}$
- ☐ $\frac{8}{9}$

Question 12 of 26

A manufacturer is designing two rectangular game boards. The width of the smaller board is one-half the width of the larger board, and the length of the smaller board is one-sixth the length of the larger board. If the smaller board has area N, then what is the difference between the areas of the game boards, in terms of N ?

- ○ $3N$
- ○ $9N$
- ○ $11N$
- ○ $12N$
- ○ $18N$

Question 13 of 26

If one manual weighs 400 grams, how many kilograms does a box of 48 manuals weigh? (1 kilogram = 1,000 grams)

- ○ 0.192
- ○ 1.92
- ○ 19.2
- ○ 192
- ○ 1,920

Question 14 of 26

What is the sum of the distinct positive even factors of 12 ?

Question 15 of 26

A computer store has fixed monthly operating costs of 5,000 dollars. The store buys each computer for 600 dollars and sells each computer for 900 dollars. What is the least number of computers the store must sell each month to cover the fixed operating costs?

- ○ 14
- ○ 15
- ○ 16
- ○ 17
- ○ 18

Question 16 of 26

If x is equal to 49.5 percent of $\frac{11}{23}$ of 0.996, then

- ○ $0.20 < x < 0.25$
- ○ $0.25 < x < 0.30$
- ○ $0.30 < x < 0.35$
- ○ $0.35 < x < 0.40$
- ○ $0.40 < x < 0.45$

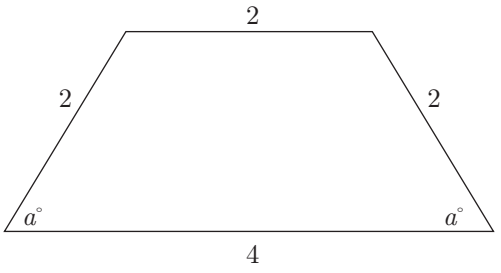
Question 17 of 26

Set $A = \{3, 1, 7, 5, 11, x\}$

If the median of Set A above is one less than the mode of Set A, which of the following is a possible value of x ?

- ○ 3
- ○ 5
- ○ 6
- ○ 7
- ○ 9

Question 18 of 26



What is the area of the quadrilateral shown above?

- ◯ $2\sqrt{3}$
- ◯ $3\sqrt{3}$
- ◯ 6
- ◯ $6\sqrt{3}$
- ◯ 8

Question 19 of 26

Anne's wage is \$10 per hour more than Mary's wage. Andy's wage is \$6 per hour more than Mark's wage. Mary's wage is \$2 per hour more than Mark's wage.

Quantity A	**Quantity B**
Anne's wage	Andy's wage

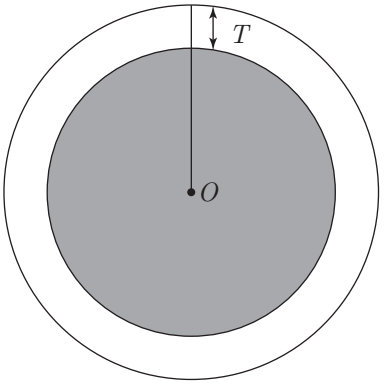
- ◯ Quantity A is greater.
- ◯ Quantity B is greater.
- ◯ The two quantities are equal.
- ◯ The relationship cannot be determined from the information given.

Question 20 of 26

M is the sum of three consecutive odd integers, the least of which is t. In terms of M, which of the following is the sum of three consecutive odd integers, the greatest of which is t ?

- ◯ $M + 12$
- ◯ $M + 6$
- ◯ $M - 6$
- ◯ $M - 12$
- ◯ $\frac{M}{2}$

Question 21 of 26



The figure above shows a circular garden plot with center O surrounded by a circular sidewalk, also with center O. If the area covered by the garden and sidewalk together is 169π and of the garden alone is 144π, what is the value of t ?

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 5
- ◯ 12.5

Question 22 of 26

If the average (arithmetic mean) of a and b is 6, and $a^2 - b^2 = 2$, what is the value of $a - b$?

- ○ $\frac{1}{6}$
- ○ $\frac{1}{3}$
- ○ $\frac{1}{2}$
- ○ 2
- ○ 3

Question 23 of 26

If the sum of two numbers is 19 and their product is 88, what is the difference between the numbers?

- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6

Question 24 of 26

If l is not equal to –3 or –4, then $\frac{l}{l+4} + \frac{3}{l+3} =$

- ○ 1
- ○ $\frac{7}{l+4}$
- ○ $\frac{l+3}{2l+7}$
- ○ $\frac{3l}{(l+4)(l+3)}$
- ○ $\frac{l^2+6l+12}{(l+4)(l+3)}$

Question 25 of 26

Pierre sells lemonade for 2 dollars per glass. His costs include 5 lemons per glass at 25 cents per lemon, and 3 tablespoons of sugar per glass at 5 cents per tablespoon. If Pierre made at least 5 dollars in one day, and there were no other costs associated with making or selling the lemonade, how many glasses of lemonade could he have sold on that day?

Indicate <u>all</u> such values.

- ☐ 6
- ☐ 7
- ☐ 8
- ☐ 9
- ☐ 10
- ☐ 11

Question 26 of 26

Aquarium A holds 150 gallons more sea water than does Aquarium B, and both aquariums are currently filled to capacity. If 20 gallons are removed from each aquarium, then Aquarium A would hold four times as much sea water as Aquarium B holds. What is the combined total number of gallons of sea water that can be held in both aquariums?

- ○ 290
- ○ 250
- ○ 220
- ○ 200
- ○ 70