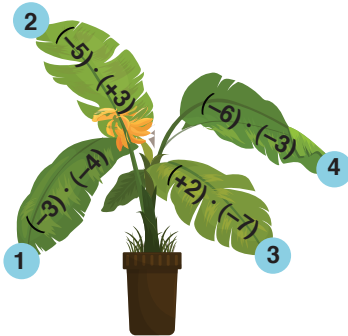


QUESTIONS AND CONCLUSIONS

QUESTIONS 7-8

Q1:



The leaves with a negative result will fall from the plant.

Which leaves will remain attached? (1 point)

- A) 1 ve 2 B) 2 ve 3
C) 3 ve 4 D) 1 ve 4

Q2: A: The identity element for multiplication.

B: The zero property of multiplication.

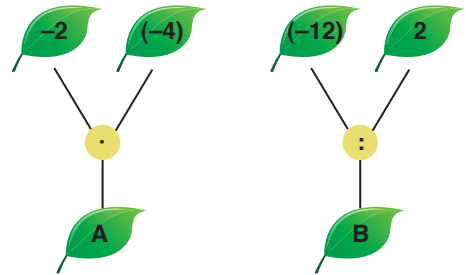
C: The identity element for addition.

D: The additive inverse of 2.

Based on the given mathematical properties, which of the following inequalities is incorrect? (1 point)

- A) $A + B = 1$ B) $B + C = 0$
C) $C - D = 2$ D) $D - B = 0$

Q3:



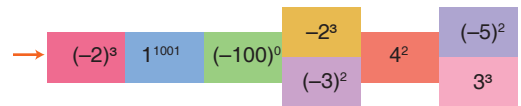
The above operations have been performed from left to right.

Accordingly, what is the result of "A - B"?

(1 point)

- A) -2 B) 2 C) 14 D) 20

Q4:

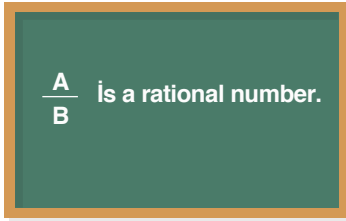


In a hopscotch game with different integers written on the squares, Emily follows her own rules to play. She always jumps to the larger number between two adjacent squares and continues until she reaches the finish line.

According to the rules she follows, what is the sum of the numbers on the squares she steps on? (1 point)

- A) 46 B) 62 C) 29 D) 44

Q5:



After writing this on the board, Mr. Daniel asks his students what can be said about A and B.

Accordingly, which of the following is definitely true? (1 point)

- A) A and B have the same sign.
- B) B cannot be zero.
- C) A cannot be zero.
- D) B divides A without a remainder.

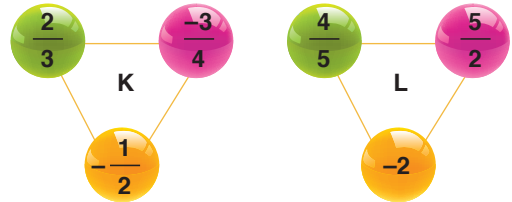
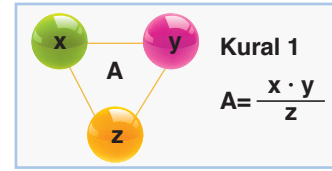
Q6: In a running race, the distances of the competitors to the finish line are given in the table below.

Competitors	Distance to the finish line (km)
George	$\frac{3}{4}$
Ruby	$\frac{4}{5}$
Mary	$\frac{7}{10}$
Melissa	$\frac{17}{20}$

According to the data in the table, which of the following represents the ranking of the runners from first to fourth place (from left to right)? (2 points)

- A) Mary, George, Ruby, Melissa
- B) George, Mary, Ruby, Melissa
- C) George, Melissa, Mary, Ruby
- D) Melissa, Ruby, George, Mary

Q7:



What is the result of the $K + L$ operation according to the given information? (2 points)

- A) -2
- B) $-\frac{1}{2}$
- C) 0
- D) 2

Q8: Four students have written algebraic expressions in the table.

Yuan	Cindy	Tina	Manny
$4x - 6$	$10x + 6$	$-3x - 2$	$3x + 2$

Which two students' algebraic expressions are equal to $7x - 4$? (2 points)

- A) Cindy – Tina
- B) Yuan – Tina
- C) Cindy – Manny
- D) Yuan – Manny

Q9:

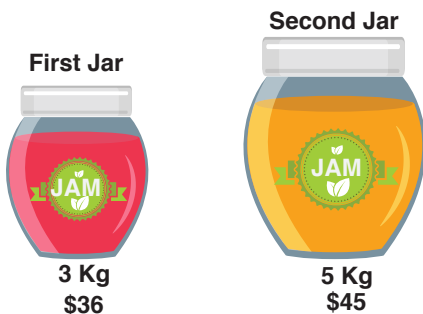


A guesthouse with a capacity of 60 beds has some rooms for 2 people and some rooms for 3 people. The doors of the 2-person rooms will be painted red, and the doors of the 3-person rooms will be painted blue.

If there are a total of 23 doors, how many of them will be painted red? (2 points)

- A) 7 B) 8 C) 9 D) 10

Q10:



The sales prices of jams of different weights belonging to the same brand are shown above.

Accordingly, what is the ratio of the unit price of the jam in the first jar to the unit price of the jam in the second jar? (2 points)

- A) $\frac{4}{3}$ B) $\frac{3}{4}$ C) $\frac{5}{3}$ D) $\frac{4}{5}$

Q11: Designer Leo uses 12 sheets of blue paper at a time to make 9 greeting cards.

He has a stack of 480 sheets of paper (blue, green, and pink).

If he uses half of the blue paper to make greeting cards, how many greeting cards does Leo produce? (3 points)

- A) 120 B) 160 C) 180 D) 360

Q12: At a basketball camp, 70% of the students are boys, and the rest are girls.

If there are 90 girls at the camp, how many students are there in total? (3 points)

- A) 150 B) 200 C) 250 D) 300

Q13:

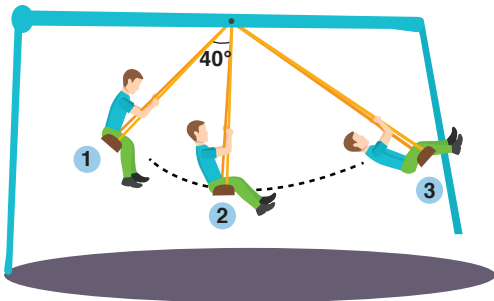


A drone manufacturing company produces a drone for \$1200 and plans to sell it with 40% profit.

To determine the selling price, the cost price should be multiplied by which of the following numbers? (3 points)

- A) 0.16 B) 1.4 C) 0.4 D) 4

Q14:

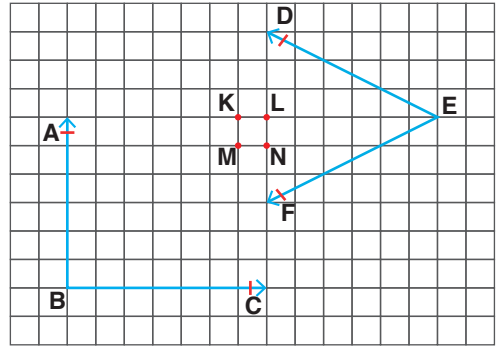


A person swinging on a swing moves 40° from position 1 to 2 and 112° from position 1 to 3.

When the pendulum is at position 2, by at least how many degrees should it be moved to reach the angle bisector of the angle between positions 1 and 3? (3 points)

- A) 16 B) 20 C) 28 D) 36

Q15:



At which point do the angle bisectors of $\triangle ABC$ and $\triangle DEF$ intersect? (3 points)

- A) K B) L C) M D) N

Q16:

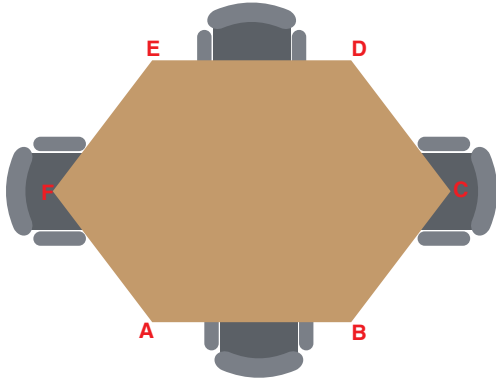


In the given image, a desk lamp parallel to the tabletop is shown.

Based on the indicated angle measurements in the image, what is the measure of the unknown angle "x" in degrees? (4 points)

- A) 115 B) 105 C) 95 D) 85

Q17:



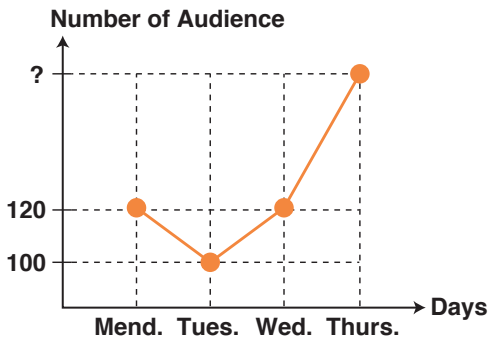
In the given figure, a table is designed in the shape of a regular hexagon.

Based on this design, what is the measure of angle ABC formed at the table's edges?

(4 points)

- A) 135 B) 120 C) 108 D) 90

Q18:



The number of audience members attending a theater hall is shown in the graph according to the days of the week.

- It is known that the number of audience members on Thursday is more than half of the total number of audience members on the other three days.

Based on this information, which of the following could be the number of audience members on Thursday? (4 points)

- A) 140 B) 160 C) 170 D) 180

Q19:

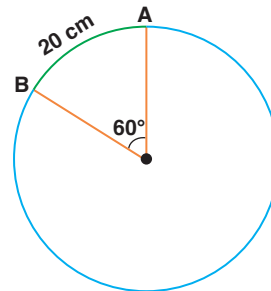
$$A + (-6) = 11$$

$$B + (-12) = +5$$

According to the given information above; what is the result of "B - A"? (4 points)

- A) 22 B) 17 C) 12 D) -5

Q20:



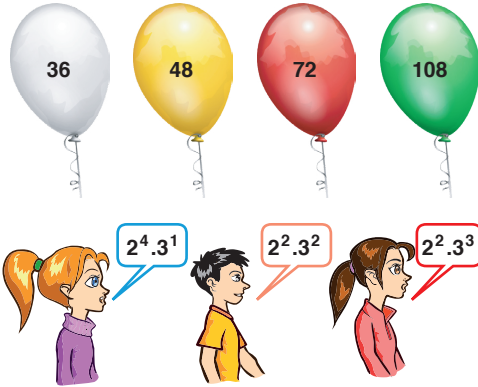
In the circle shown, Arc AB measures 20 cm, and Angle AOB = 60°.

What is the radius of the circle? (Use $\pi = 3$)

(4 points)

- A) 10 cm B) 20 cm
C) 30 cm D) 40 cm

Q21:



When the numbers on the balloons are matched with the exponential expressions given by the students as their product, which colored balloon remains unmatched?

(5 points)

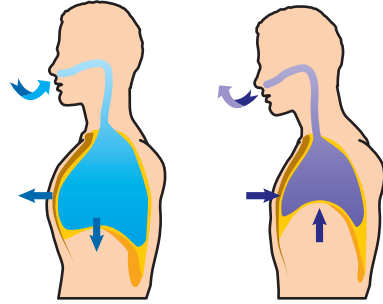
- A) White
- B) Yellow
- C) Red
- D) Green

Q22: Alex wants to illuminate his triangular-shaped land, which has side lengths of 27 m, 36 m, and 45 m, by placing electric poles at equal intervals, including at the corners.

What is the minimum number of poles needed for this task? (5 points)

- A) 10
- B) 11
- C) 12
- D) 13

Q23: According to research, a human breathes an average of 20 000 times per day.



If we want to express the total number of breaths a person takes in a year using scientific notation, which of the following is the correct expression? (5 points)

- A) 7.3×10^5
- B) 73×10^5
- C) 0.73×10^6
- D) 7.3×10^6

Q24:

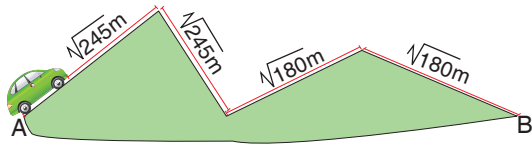
	a	b	c
a	8		
b	$6\sqrt{2}$		$\sqrt{18}$
c			x

According to the multiplication table given above, which of the following is the value of x? (5 points)

- A) 2
- B) 3
- C) 4
- D) 5

QUESTIONS AND CONCLUSIONS

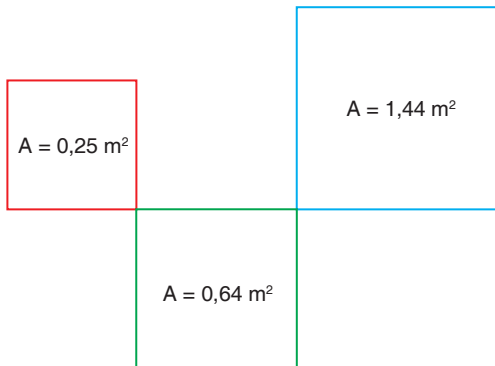
Q25: Oliver wants to travel from City A to City B. The roads between City A and City B are shown below.



Based on this information, what is the perimeter of the given shape? (5 points)

- A) $17\sqrt{5}$ B) $19\sqrt{5}$
C) $22\sqrt{5}$ D) $24\sqrt{5}$

Q26:



The areas of the given squares are 0.25 m^2 , 0.64 m^2 , and 1.44 m^2 , respectively.

Based on this information, what is the perimeter of the given shape? (6 points)

- A) 10 B) 12 C) 16 D) 20

Q27: The digits from 0 to 9 are written on identical pieces of paper and placed in a bag.

Which of the following statements is incorrect regarding the probability of drawing a number from this bag? (6 points)

- A) The probability of drawing each digit is equal.
B) The probability of drawing an odd number is equal to the probability of drawing an even number.
C) The probability of drawing a prime number is greater than the probability of drawing a non-prime number.
D) The probability of drawing 0 is equal to the probability of drawing 9.

Q28: In a jar, there are only yellow, red, and orange candies, which are identical except for their colors.

The probability values for selecting a randomly picked candy based on its color are given in the table below.

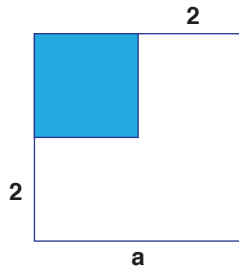
Colors	Probability
Yellow	$\frac{1}{2}$
Red	$\frac{3}{10}$
Orange	$\frac{1}{5}$

The difference between the number of red and orange candies is 5.

What is the total number of candies in the jar? (6 points)

- A) 30 B) 40 C) 50 D) 60

Q29:



A square with a side length of a units has another square cut out from it, as shown in the figure.

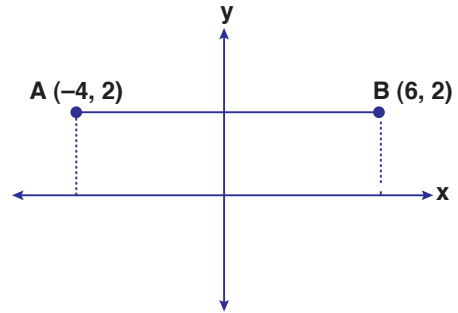
Which of the following represents the area of the removed square? (6 points)

- A) $(a - 2) \cdot (a + 2)$
- B) $(2 - a) \cdot (2 + a)$
- C) $a^2 + 4a + 4$
- D) $a^2 - 4a + 4$

Q30: Which of the following algebraic expressions has an incorrect result? (6 points)

- A) $3 \cdot (x - 7) + 5x = 8x - 21$
- B) $3x - 5x + 7x - 14 = 5x - 14$
- C) $x \cdot (2x + 4) - x^2 = x^2 + 4x$
- D) $3 \cdot (x + y) - 5 \cdot (x - y) = 8x - 2y$

Q31: In a coordinate system where two number lines intersect perpendicularly at 0 (zero), the points $A(-4, 2)$ and $B(6, 2)$ are given.



What are the coordinates of the midpoint of $[AB]$? (7 points)

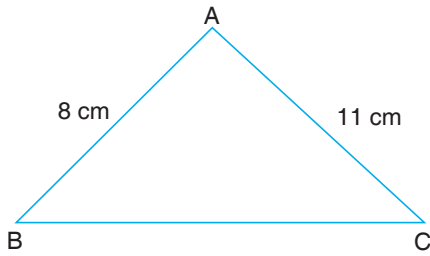
- A) $(-1, 2)$
- B) $(0, 2)$
- C) $(1, 2)$
- D) $(2, 2)$

Q32: A grocery store has 50 packs of candy. The store sells 2 packs of candy per day.

Which of the following equations represents the linear relationship between the number of remaining candy packs (y) and the number of days (x)? (7 points)

- A) $y = 50 + 2x$
- B) $y = 50x + 2$
- C) $y = 50x - 2$
- D) $y = 50 - 2x$

Q33:

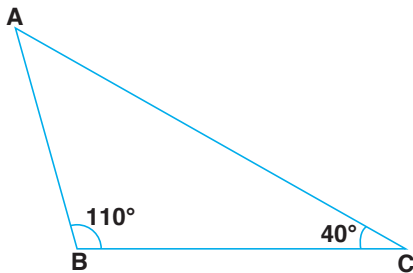


In the given triangle ABC, the side lengths are:
 $|AB| = 8 \text{ cm}$, $|AC| = 11 \text{ cm}$

What is the greatest possible integer value for $|BC|$? (7 points)

- A) 9 B) 10 C) 18 D) 19

Q34:



Based on the information given above, which of the following options correctly lists the side lengths of triangle ABC in order? (7 points)

- A) $|AB| > |AC| > |BC|$
 B) $|AC| > |AB| > |BC|$
 C) $|AC| > |BC| > |AB|$
 D) $|BC| > |AB| > |AC|$

Q35: Which of the following geometric shapes cannot have horizontal and vertical lines of symmetry? (7 points)

- A) Square
 B) Regular pentagon
 C) Regular hexagon
 D) Regular octagon