Question #	ID
1.1	2c121b25

Valentina bought two containers of beads. In the first container 30% of the beads are red, and in the second container 70% of the beads are red. Together, the containers have at least 400 red beads. Which inequality shows this relationship, where x is the total number of beads in the first container and y is the total number of beads in the second container?

A. $0.3x + 0.7y \geq 400$

B. $0.7x + 0.3y \leq 400$

C. $\dfrac{x}{3} + \dfrac{y}{7} \leq 400$

D. $30x + 70y \geq 400$

1.2   ee439cff

On a car trip, Rhett and Jessica each drove for part of the trip, and the total distance they drove was under 220 miles. Rhett drove at an average speed of $35 \text{ miles per hour (mph)}$, and Jessica drove at an average speed of 40 mph. Which of the following inequalities represents this situation, where r is the number of hours Rhett drove and j is the number of hours Jessica drove?

A. $35r + 40j > 220$

B. $35r + 40j < 220$

C. $40r + 35j > 220$

D. $40r + 35j < 220$

1.3   563407e5

A bakery sells trays of cookies. Each tray contains at least 50 cookies but no more than 60. Which of the following could be the total number of cookies on 4 trays of cookies?

A. 165

B. 205

C. 245

D. 285

Question #	ID
1.4	df32b09c

Tom scored 85, 78, and 98 on his first three exams in history class. Solving which inequality gives the score, G, on Tom's fourth exam that will result in a mean score on all four exams of at least 90 ?

A. $90 - (85 + 78 + 98) \leq 4G$

B. $4G + 85 + 78 + 98 \geq 360$

C. $\dfrac{(G + 85 + 78 + 98)}{4} \geq 90$

D. $\dfrac{(85 + 78 + 98)}{4} \geq 90 - 4G$

1.5	915463e0

Normal body temperature for an adult is between $97.8°F$ and $99°F$, inclusive. If Kevin, an adult male, has a body temperature that is considered to be normal, which of the following could be his body temperature?

A. $96.7°F$

B. $97.6°F$

C. $97.9°F$

D. $99.7°F$

1.6	89541f9b

Which of the following ordered pairs (x, y) satisfies the inequality $5x - 3y < 4$?

1. $(1, 1)$
2. $(2, 5)$
3. $(3, 2)$

A. I only

B. II only

C. I and II only

D. I and III only

Question #	ID
1.7	84d0d07e

A clothing store is having a sale on shirts and pants. During the sale, the cost of each shirt is $15 and the cost of each pair of pants is $25. Geoff can spend at most $120 at the store. If Geoff buys *s* shirts and *p* pairs of pants, which of the following must be true?

A. $15s + 25p \le 120$

B. $15s + 25p \ge 120$

C. $25s + 15p \le 120$

D. $25s + 15p \ge 120$

1.8	e744499e

An elementary school teacher is ordering *x* workbooks and *y* sets of flash cards for a math class. The teacher must order at least 20 items, but the total cost of the order must not be over $80. If the workbooks cost $3 each and the flash cards cost $4 per set, which of the following systems of inequalities models this situation?

A. $\begin{aligned} x + y &\ge 20 \\ 3x + 4y &\le 80 \end{aligned}$

B. $\begin{aligned} x + y &\ge 20 \\ 3x + 4y &\ge 80 \end{aligned}$

C. $\begin{aligned} 3x + 4y &\le 20 \\ x + y &\ge 80 \end{aligned}$

D. $\begin{aligned} x + y &\le 20 \\ 3x + 4y &\ge 80 \end{aligned}$

1.9	b75f7812

Maria plans to rent a boat. The boat rental costs $60 per hour, and she will also have to pay for a water safety course that costs $10. Maria wants to spend no more than $280 for the rental and the course. If the boat rental is available only for a whole number of hours, what is the maximum number of hours for which Maria can rent the boat?

1.10	72a5fd28

For a party, 50 dinner rolls are needed. Dinner rolls are sold in packages of 12. What is the minimum number of packages that should be bought for the party?

Question #	ID
1.11	86f7483f

During spring migration, a dragonfly traveled a minimum of $1,510$ miles and a maximum of $4,130$ miles between stopover locations. Which inequality represents this situation, where d is a possible distance, in miles, this dragonfly traveled between stopover locations during spring migration?

A. $d \leq 1,510$

B. $1,510 \leq d \leq 4,130$

C. $d \geq 4,130$

D. $4,130 \leq d \leq 5,640$

1.12 cfe67646

The point $(8, 2)$ in the *xy*-plane is a solution to which of the following systems of inequalities?

A. $x > 0$
  $y > 0$

B. $x > 0$
  $y < 0$

C. $x < 0$
  $y > 0$

D. $x < 0$
  $y < 0$

1.13 208626df

$$2\ell + 2w \leq 27$$

A rectangle has length ℓ and width w. The inequality gives the possible values of ℓ and w for which the perimeter of this rectangle is less than or equal to 27. Which statement is the best interpretation of $(\ell, w) = (8, 3)$ in this context?

A. If the rectangle has length 3 and width 8, its perimeter is less than or equal to 27.

B. If the rectangle has length 8 and width 3, its perimeter is less than or equal to 27.

C. If the rectangle has length 3 and width 8, its perimeter is greater than or equal to 27.

D. If the rectangle has length 8 and width 3, its perimeter is greater than or equal to 27.

Question #	ID
1.14	f01ef454

A geologist estimates that the volume of a slab of granite is greater than 12.7 cubic feet but less than 15.7 cubic feet. The geologist also estimates that the slab of granite weighs 165 pounds per cubic foot of volume. Which inequality represents this situation, where x represents the estimated total weight, in pounds, of the slab of granite?

A. $165 - 15.7 < x < 165 - 12.7$

B. $165 + 12.7 < x < 165 + 15.7$

C. $165(12.7) < x < 165(15.7)$

D. $\frac{165}{15.7} < x < \frac{165}{12.7}$

| **1.15** | 2869fe95 |

For a 3-week period in a town in Illinois, the lowest recorded temperature was 31 degrees Fahrenheit $(^\circ F)$ and the highest recorded temperature was $67\,^\circ F$. Which inequality is true for any recorded temperature t, in $^\circ F$, in this town for this 3-week period?

A. $t \geq 98$

B. $t \geq 67$

C. $31 \leq t \leq 67$

D. $t \leq 31$

| **1.16** | 4a090a46 |

Julissa needs at least 100 hours of flight time to get her private pilot certification. If Julissa already has 86 hours of flight time, what is the minimum number of additional hours of flight time Julissa needs to get her private pilot certification?

A. 14

B. 76

C. 86

D. 186