

#1

ID: 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) $x < 0$

$y < 0$

#2

ID: 842cec4d

During a portion of a flight, a small airplane's cruising speed varied between 150 miles per hour and 170 miles per hour. Which inequality best represents this situation, where s is the cruising speed, in miles per hour, during this portion of the flight?

A) $s \leq 20$

B) $s \leq 150$

C) $s \leq 170$

D) $150 \leq s \leq 170$

#3

ID: 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) $\frac{x}{3} + \frac{y}{7} \leq 400$

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

#4

ID: c50ede6d

The total cost, in dollars, to rent a surfboard consists of a \$ 25 service fee and a \$ 10 per hour rental fee. A person rents a surfboard for t hours and intends to spend a maximum of \$ 75 to rent the surfboard. Which inequality represents this situation?

A) $10t \leq 75$

B) $10 + 25t \leq 75$

C) $25t \leq 75$

D) $25 + 10t \leq 75$

#5

ID: 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 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) $40r + 35j < 220$

#6

ID: 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

#7

ID: 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

#8

ID: 68f2cbaf

Ty set a goal to walk at least 24 kilometers every day to prepare for a multiday hike. On a certain day, Ty plans to walk at an average speed of 4 kilometers per hour. What is the minimum number of hours Ty must walk on that day to fulfill the daily goal?

- A) 4
- B) 6
- C) 20
- D) 24

#9

ID: 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) $\frac{(G + 85 + 78 + 98)}{4} \geq 90$
- D) $\frac{(85 + 78 + 98)}{4} \geq 90 - 4G$

#10

ID: 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) $4,130 \leq d \leq 5,640$

#11

ID: 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?

#12

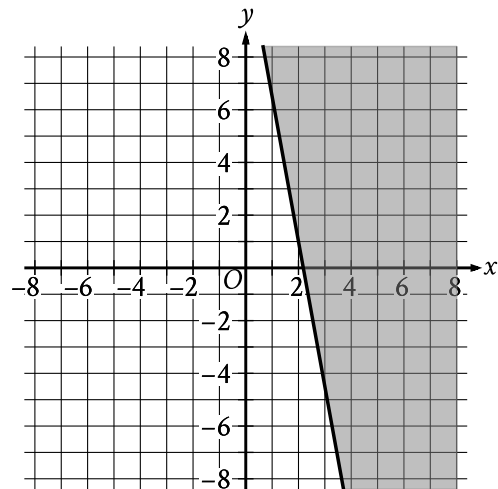
ID: e006209c

A geologist needs to collect at least 67 samples of lava from a volcano. If the geologist has already collected 63 samples from the volcano, what is the minimum number of additional samples the geologist needs to collect?

- A) 130
- B) 63
- C) 4
- D) 0

#13

ID: 59a49431



The shaded region shown represents solutions to an inequality. Which ordered pair (x, y) is a solution to this inequality?

- A) $(0, -4)$
- B) $(0, 4)$
- C) $(-4, 0)$
- D) $(4, 0)$

#14

ID: 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

#16

ID: 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) $15s + 25p \leq 120$
- B) $15s + 25p \geq 120$
- C) $25s + 15p \leq 120$
- D) $25s + 15p \geq 120$

#15

ID: 89541f9b

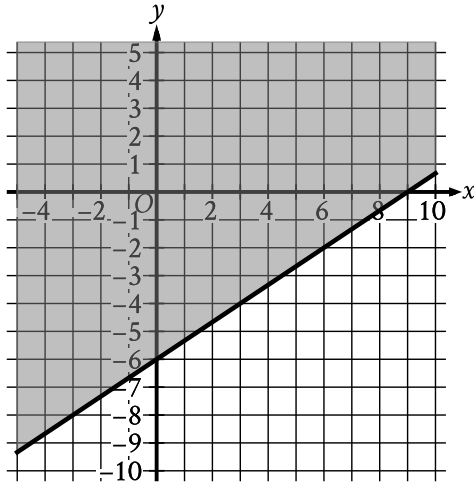
Which of the following ordered pairs (x, y) satisfies the inequality $5x - 3y < 4$?

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

#17

ID: c9355dec



The shaded region shown represents the solutions to which inequality?

- A) $y \geq \frac{2}{3}x - 6$
- B) $y \geq \frac{2}{3}x + 6$
- C) $y \geq \frac{2}{3}x - 9$
- D) $y \geq \frac{2}{3}x + 9$

#18

ID: 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)
$$\begin{aligned} x + y &\geq 20 \\ 3x + 4y &\leq 80 \end{aligned}$$
- B)
$$\begin{aligned} x + y &\geq 20 \\ 3x + 4y &\geq 80 \end{aligned}$$
- C)
$$\begin{aligned} 3x + 4y &\leq 20 \\ x + y &\geq 80 \end{aligned}$$
- D)
$$\begin{aligned} x + y &\leq 20 \\ 3x + 4y &\geq 80 \end{aligned}$$

#19

ID: 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?

#20

ID: b64e2c7f

Monarch butterflies can fly only with a body temperature of at least 55.0 degrees Fahrenheit ($^{\circ}\text{F}$). If a monarch butterfly's body temperature is 51.3°F , what is the minimum increase needed in its body temperature, in $^{\circ}\text{F}$, so that it can fly?

- A) 1.3
- B) 3.7
- C) 5.0
- D) 6.3

#21

ID: 7d6928bd

A cleaning service that cleans both offices and homes can clean at most 14 places per day. Which inequality represents this situation, where f is the number of offices and h is the number of homes?

- A) $f + h \leq 14$
- B) $f + h \geq 14$
- C) $f - h \leq 14$
- D) $f - h \geq 14$