#31

A farmer wants to double the area of a square pen for sheep. If the length of each side of the pen is currently 12 meters, which of the following is closest to the increase in the length of each side needed to double the area of the pen?

\bigcirc	5	meters
1		



O 9 meters

O 12 meters

#32

Answer the question below by clicking on the correct response.

The function *h* is defined by h(x) = -2x - 17 for all real numbers *x*. Which of the following is a partial table of values for h(x)?

	x	h(x)
	-1	-15
ſ	0	-17
	1	-19
	2	-21

X	h(x)
]	15
0	17
1	19
2	21

х	h(x)
-1	-14
0	-17
1	-20
2	-23

x	h(x)
1	2
0	0
1	-2
2	-4

Click on the answer box and type in a number. Backspace to erase.



The figure shows a circle with center A and the degree measures of three central angles. What is the degree measure of angle CAD?



#34

Click on your choices.



The figure shows triangle KJL in the xy-plane and the coordinates of its vertices. Which of the following statements are true?

Select all that apply.

The slope of \overline{JL} is $-\frac{4}{3}$.

The length of JL is 15.

 \Box The length of \overline{LK} is 12.

 \Box The slope of \overline{KJ} is 0.

 \Box The length of \overline{KJ} is 5.

#35

Answer the question below by clicking on the correct response.

Which of the following expressions is equivalent to $\left(\frac{a^{-3}}{b^{-2}}\right)^5$?

$$\bigcirc \frac{a^2}{b^3}$$
$$\bigcirc \frac{b^3}{a^2}$$
$$\bigcirc \frac{a^{15}}{b^{10}}$$
$$\bigcirc \frac{b^{10}}{a^{15}}$$

#36

Answer the question below by clicking on the correct response.

If $f(x) = -x^2 - 2x + 4$, what is the value of f(-2)? $\bigcirc -4$ $\bigcirc -2$ $\bigcirc 4$ $\bigcirc 12$

#37

Click on the answer box and type in a number. Backspace to erase.

10 10 6 6

What is the area of the triangle above?

#38

Answer the question below by clicking on the correct response.

Which of the following best represents the solution set of the inequality $2(3-5x) \le -44$?



Answer the question below by clicking on the correct response.

4,7,12,19,28,...

The first five terms of a sequence are shown, where the value of the first term is 4. Which of the following expressions could be used to determine the value of the *n*th term of the sequence?

$$\bigcirc n+3$$

 $\bigcirc 2n+2$

 $On^2 - 2$

 $On^2 + 3$

-- 7

Answer the question below by clicking on the correct response.

7, 1, 5, 8, 3, 2, 17, 13, 7, 5, 20

Which of the following statements about the data set shown is true?

O The mode of the numbers in the data set is 6.

O The modes of the numbers in the data set are 5 and 7.

O The median of the numbers in the data set is 2.

O The mean of the numbers in the data set is 7.

#41

Click on each box and type in a number. Backspace to erase.

If $15^8 \times 45^7 = 3^a \times 5^b$, where a and b are integers, what are the values of a and b?



#42

Answer the question below by clicking on the correct response.

The distance that a cyclist travels is a function of the time that the cyclist travels. The cyclist's route begins on flat ground, continues up an incline, returns to flat ground, and finishes on a downward incline. The cyclist travels slower going up an incline than riding on flat ground and faster going down an incline than riding on flat ground. Which of the following graphs best shows the relationship between the distance the cyclist traveled and the time the cyclist spent cycling?



#43

Answer the question below by clicking on the correct response.

If each side of a square with length s is increased in length by $\frac{1}{3}s$, what is the length of a diagonal of the new square?



#44

Click on the answer box and type in a number. Backspace to erase,

In an election between Charlotte and Caleb, Charlotte received 5 votes for every 3 votes that Caleb received. If there are a total of 616 people who voted, how many more votes did Charlotte receive than Caleb?

#45

J P

1

Click on your choices.



A family is deciding where to go on a day trip. The Venn diagram shown is being used to organize the family's preferences among three destinations. If Samantha does not want to go to the zoo, which of the following regions in the diagram could represent Samantha's preferences?

Select all that apply.

- Region A
- Region B
- Region C
- Region D
- Region E
- Region F
- C Region G