Geometry Daily Quiz
01272020
This is a Christmas gift in January. Make sure you get 110!

Question 1.

"If an animal is an ape, then it is a primate."

"If an animal is a primate, then it has hair."

Bongo is an ape. Using these conditions, what is the correct conclusion?

A Bongo does not have hair.
B Bongo has hair.
C Bongo is a chimpanzee.
D Bongo is not a primate.

Question 2

A baby bottle manufacturer noticed that sales of bottles with teddy bears on them decreased during a 5-month period. The data are shown in the table below.

Month	Bottles Sold
January	1250
February	1100
March	950
April	800
May	650

Which number represents the BEST conjecture about the number of baby bottles with teddy bears the manufacturer will sell in June?

A 150
B 500
C 600
D 650

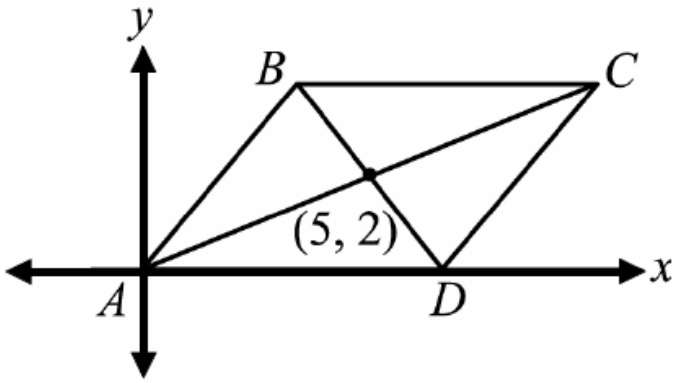
Question 3.

Which term matches the definition "has a definite beginning point and travels in one direction without end"?

A line
B ray
C secant
D line segment

Question 4.

In the figure below, the diagonals of parallelogram *ABCD* intersect at (5, 2).



What are the coordinates of point *C*?

A (7, 3)
B (8, 3)
C (9, 4)
D (10, 4)

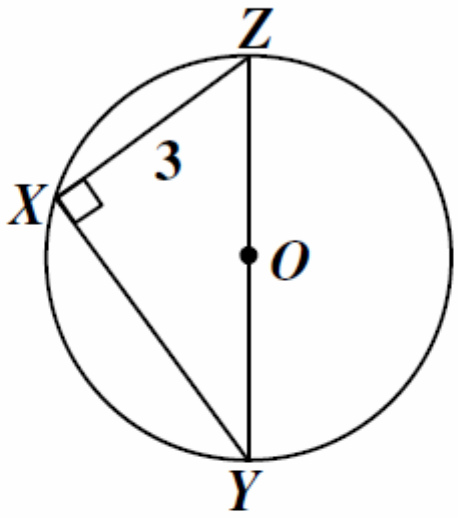
Question 5.

A toy company is producing a new toy that is called a "Zerk." All Zerks are either pink or green. Which of these is NOT necessarily true based on this information?

A If an object is blue, it is not a Zerk.
B If a Zerk is not pink, it must be green.
C If an object is pink or green, it must be a Zerk.
D If an object is not pink or green, it cannot be a Zerk.

Question 6.

In the figure below, the circle has diameter 5 and center *O*. Chord *XZ* has a length of 3.



What is the length of chord *XY*?

A π

B 4

C $4\frac{2}{3}$

D $\sqrt{91}$

Question 7.

Which of these statements is the BEST conclusion for the following list of statements?

- **$\angle A$ and $\angle B$ are acute angles of ΔABC.**
- **$\angle A$ and $\angle B$ are base and vertex angles respectively.**
- **ΔABC is an equilateral triangle.**

A $\angle A \cong \angle B$
B $\angle A > \angle B$
C $m\angle A + m\angle B < 90°$
D $\angle A$ and $\angle B$ must be complementary.

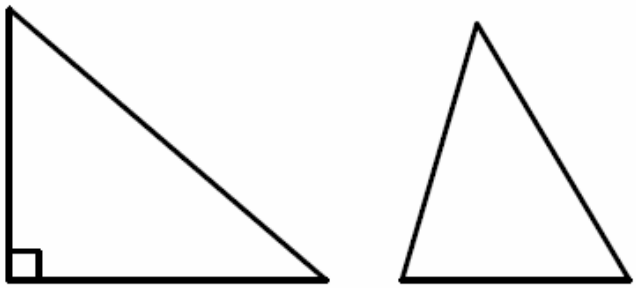
Question 8.

In the xy-plane, if the lines $y = 6$ and $y = 2x + k$ intersect at the point $(1, 6)$, what is the value of k?

A 1
B 3
C 4
D 6

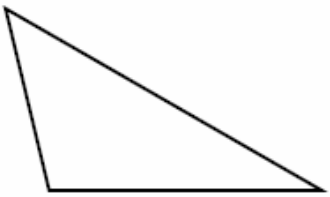
Question 9.

After reviewing the two diagrams below, Jessie came to the conclusion that every angle within a triangle must be less than or equal to 90 degrees.

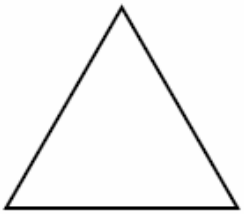


Which triangle below serves as a counterexample to Jessie's argument?

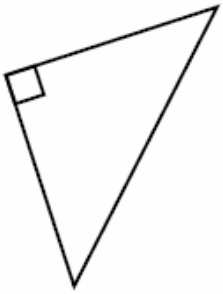
A



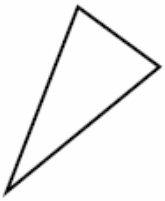
C



B

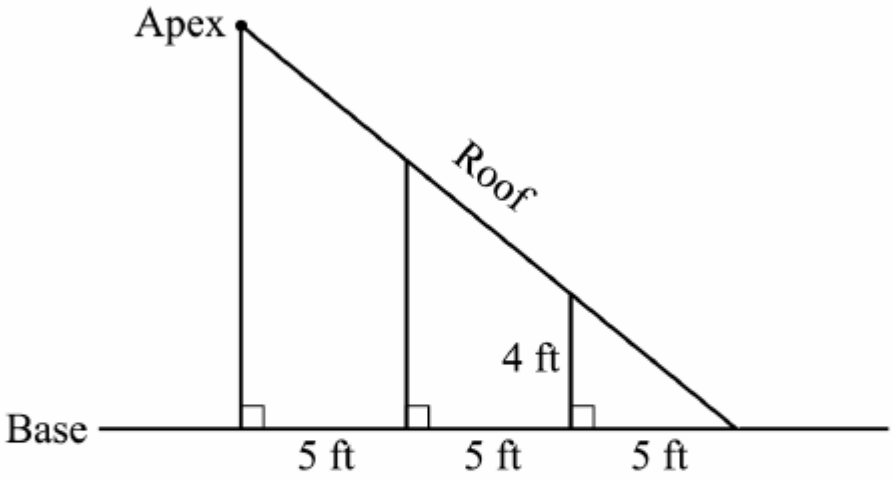


D



Question 10.

14 **The diagram below shows a part of a roof. The highest part of the roof is called the apex.**



How many feet above the base is the apex of the roof?

A 8
B 9
C 12
D 20

Bonus

What is the converse of the following statement?

If Gerald goes swimming, then he will wear his red swimsuit.

A If Gerald wears his red swimsuit, then he will go swimming.
B If Gerald does not go swimming, then he will not wear his red swimsuit.
C If Gerald does not wear his red swimsuit, then he will not go swimming.
D If Gerald goes swimming, then he will wear his blue swimsuit.

Converse, Inverse, Contrapositive

Given an if-then statement "if p, then q," we can create three related statements:

A conditional statement consists of two parts, a hypothesis in the "if" clause and a conclusion in the "then" clause. For instance, "If it rains, then they cancel school."
"It rains" is the hypothesis.
"They cancel school" is the conclusion.

To form the converse of the conditional statement, interchange the hypothesis and the conclusion.
The converse of *"If it rains, then they cancel school"* is *"If they cancel school, then it rains."*

To form the inverse of the conditional statement, take the negation of both the hypothesis and the conclusion.
The inverse of *"If it rains, then they cancel school"* is *"If it does not rain, then they do not cancel school."*

To form the contrapositive of the conditional statement, interchange the hypothesis and the conclusion of the inverse statement.
The contrapositive of *"If it rains, then they cancel school"* is *"If they do not cancel school, then it does not rain."*

The link to the above information.
https://www.varsitytutors.com/hotmath/hotmath_help/topics/converse-inverse-contrapositive

PARCC
Partnership for Assessment of Readiness for College and Careers

High School Mathematics Assessment Reference Sheet

1 inch = 2.54 centimeters
1 meter = 39.37 inches
1 mile = 5280 feet
1 mile = 1760 yards
1 mile = 1.609 kilometers

1 kilometer = 0.62 mile
1 pound = 16 ounces
1 pound = 0.454 kilograms
1 kilogram = 2.2 pounds
1 ton = 2000 pounds

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts
1 gallon = 3.785 liters
1 liter = 0.264 gallons
1 liter = 1000 cubic centimeters

Triangle	$A = \frac{1}{2}bh$
Parallelogram	$A = bh$
Circle	$A = \pi r^2$
Circle	$C = \pi d \ \ or \ \ C = 2\pi r$
General Prisms	$V = Bh$
Cylinder	$V = \pi r^2 h$
Sphere	$V = \frac{4}{3}\pi r^3$
Cone	$V = \frac{1}{3}\pi r^2 h$
Pyramid	$V = \frac{1}{3}Bh$

Quadratic Formula	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
Arithmetic Sequence	$a_n = a_1 + (n-1)d$
Geometric Sequence	$a_n = a_1 r^{n-1}$
Geometric Series	$S_n = \frac{a_1 - a_1 r^n}{1-r}$ where $r \neq 1$
Radians	1 radian $= \frac{180}{\pi}$ degrees
Degrees	1 degree $= \frac{\pi}{180}$ radians