Geometry Daily Quiz 02032020

Question 1.

Which statement will ALWAYS provide a counterexample to the statement below?

If two angles are congruent, then they are right angles.

A $\angle A$ and $\angle B$ are right angles.
B $\angle A$ and $\angle B$ are supplementary angles.
C $\angle A$ and $\angle B$ are vertical angles.
D $\angle A$ and $\angle B$ both have measure $75°$.

Question 2

A building that is 50 feet tall casts a shadow 30 feet long. Nearby, a tree casts a 75-foot-long shadow. How tall is the tree?

A 95 feet
B 110 feet
C 125 feet
D 140 feet

Question 3.

If $r > 0$ and $s < 0$, in which quadrant of the xy-plane does the point (r, s) lie?

A quadrant I
B quadrant II
C quadrant III
D quadrant IV

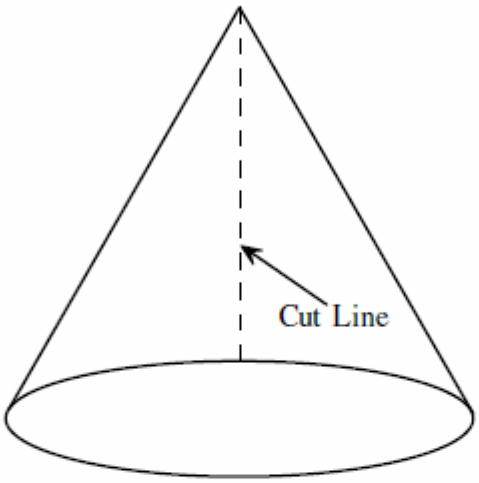
Question 4.

If the length of the side of a square changes by a factor of 3, by what factor does the area change?

A 3
B 9
C 12
D 27

Question 5.

A paper cone is cut open with a single straight cut as shown.

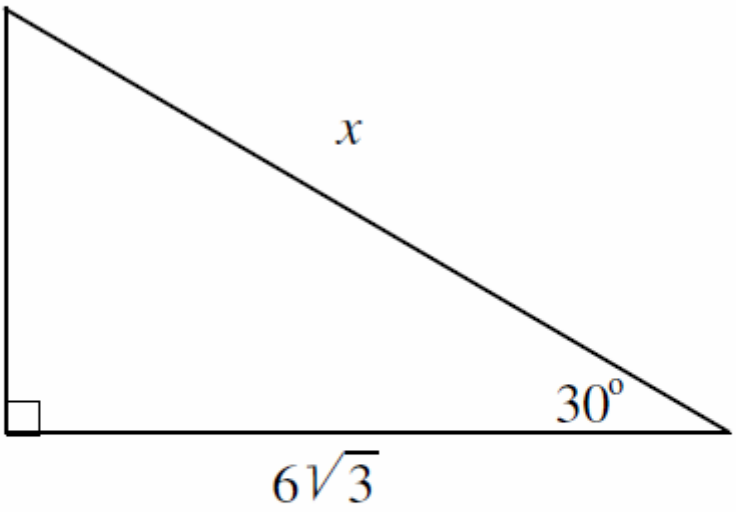


Which term BEST describes the straight cut shown?

A height
B slant height
C radius
D diameter

Question 6.

What is the value of x in the triangle below?



A $3\sqrt{3}$

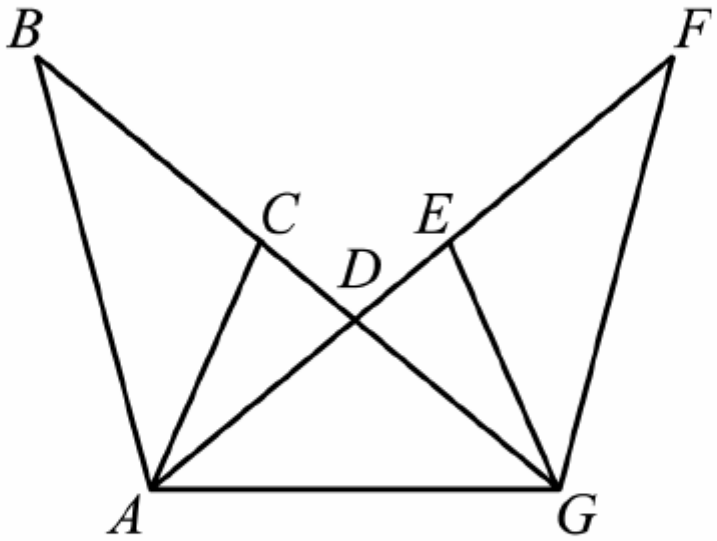
B 6

C 12

D $12\sqrt{3}$

Question 7.

In the figure below, $\overline{AD} \cong \overline{GD}$ and $\overline{AE} \cong \overline{GC}$. Which of the following must be true?



A $\Delta ADC \cong \Delta GDE$

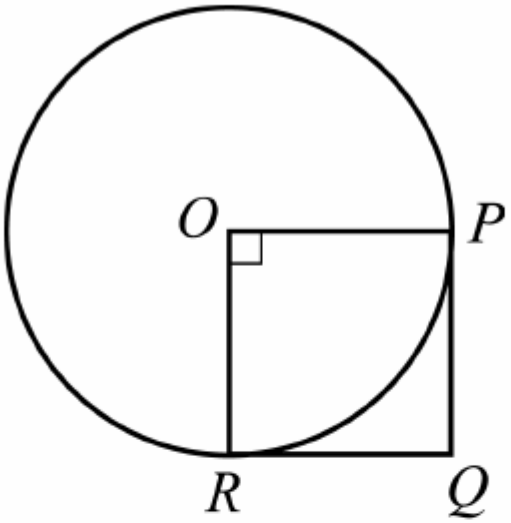
B $\Delta ABD \cong \Delta GFD$

C $\Delta BAC \cong \Delta FGE$

D $\Delta ADC \cong \Delta CED$

Question 8.

Point O is the center of the circle below.



$\overline{RQ}$ and $\overline{PQ}$ are tangent to the circle, and $\overline{OP} \perp \overline{OR}$. Which statement BEST describes quadrilateral $OPQR$?

A It is a parallelogram, but $\angle Q > 90°$.

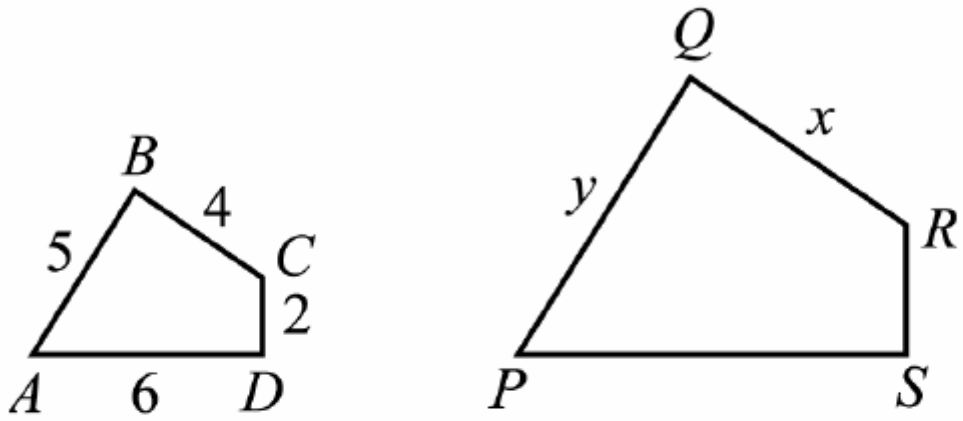
B It is a rectangle, but $RQ \neq PQ$.

C It is a trapezoid, and $PQ > OR$.

D It is a rhombus, and $\angle Q = 90°$.

Question 9.

In the figure below, quadrilateral *ABCD* is similar to quadrilateral *PQRS*.



Which of the following gives x in terms of y?

A $x = \frac{4}{5}y$

B $x = \frac{4}{6}y$

C $x = \frac{5}{4}y$

D $x = \frac{5}{6}y$

Question 10.

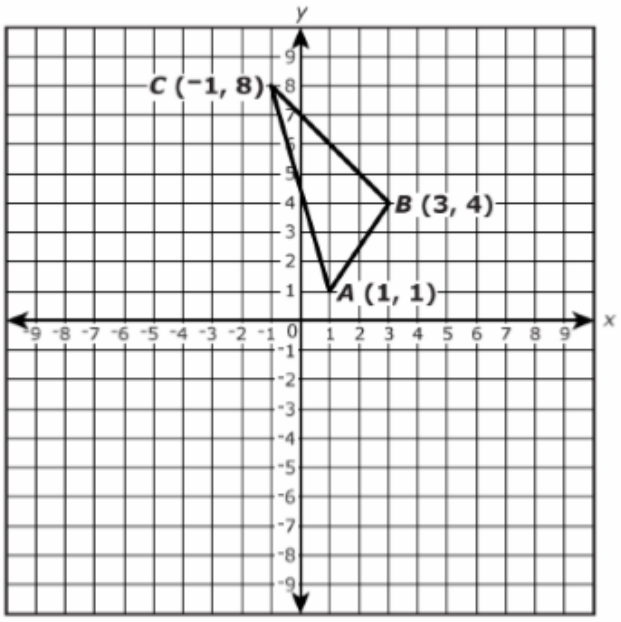
Which set of points is equidistant from the rays that form an angle?

A perpendicular bisector
B skew line
C angle bisector
D central angle

Bonus

Calculator Part (continued)

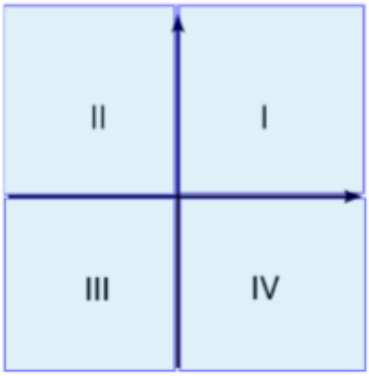
14. Triangle ABC is graphed in the coordinate plane with vertices $A(1,1)$, $B(3,4)$, and $C(-1,8)$ as shown in the figure.



Part A

Triangle ABC will be reflected across the line $y = 1$ to form $\Delta A'B'C'$.

Select all quadrants of the xy-coordinate plane that will contain at least one vertex of $\Delta A'B'C'$.



Part B

What are the coordinates of B'?

Enter your answers in the boxes.

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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