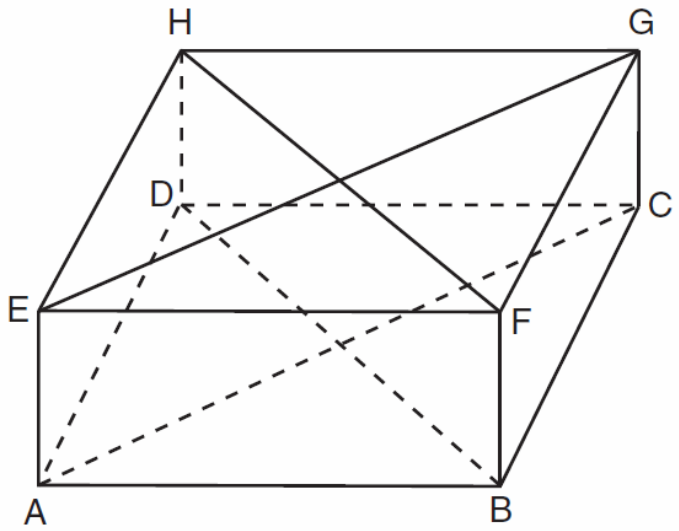
Geometry
Daily Quiz 11122019

Question 1.

A rectangular prism is shown in the diagram below.



Which pair of line segments would always be both congruent and parallel?

(1) $\overline{AC}$ and $\overline{FB}$

(2) $\overline{FB}$ and $\overline{DB}$

(3) $\overline{HF}$ and $\overline{AC}$

(4) $\overline{DB}$ and $\overline{HF}$

Question 2.

In parallelogram $QRST$, diagonal $\overline{QS}$ is drawn. Which statement must always be true?

(1) $\triangle QRS$ is an isosceles triangle.

(2) $\triangle STQ$ is an acute triangle.

(3) $\triangle STQ \cong \triangle QRS$

(4) $\overline{QS} \cong \overline{QT}$

Question 3.

What is an equation of the line that passes through $(-9,12)$ and is perpendicular to the line whose equation is $y = \frac{1}{3}x + 6$?

(1) $y = \frac{1}{3}x + 15$

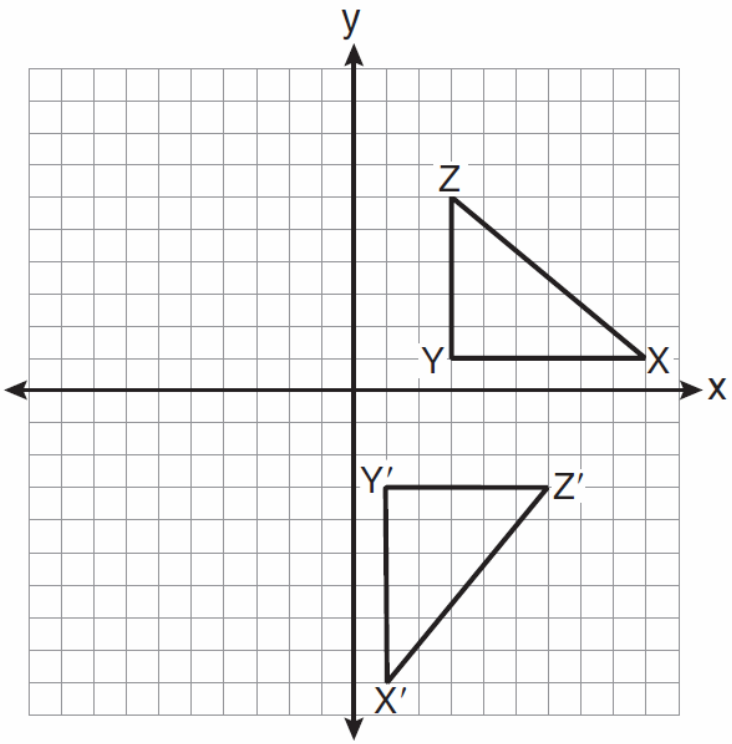
(2) $y = -3x - 15$

(3) $y = \frac{1}{3}x - 13$

(4) $y = -3x + 27$

Question 4.

In the diagram below, under which transformation is $\triangle X'Y'Z'$ the image of $\triangle XYZ$?



(1) dilation

(2) reflection

(3) rotation

(4) translation

Question 5.

What is the solution of the system of equations $y - x = 5$ and $y = x^2 + 5$?

(1) (0,5) and (1,6)

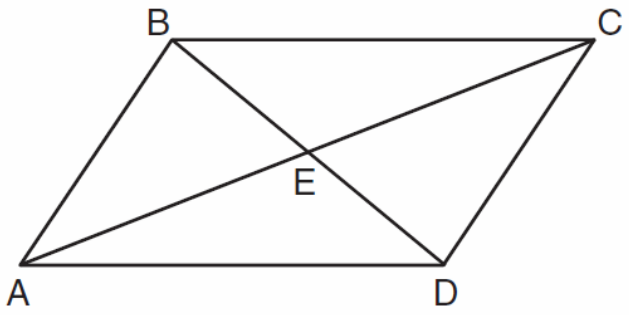
(2) (0,5) and (−1,6)

(3) (2,9) and (−1,4)

(4) (−2,9) and (−1,4)

Question 6.

In the diagram below, parallelogram $ABCD$ has vertices $A(1,3)$, $B(5,7)$, $C(10,7)$, and $D(6,3)$. Diagonals $\overline{AC}$ and $\overline{BD}$ intersect at E.



(Not drawn to scale)

What are the coordinates of point E?

(1) (0.5,2)

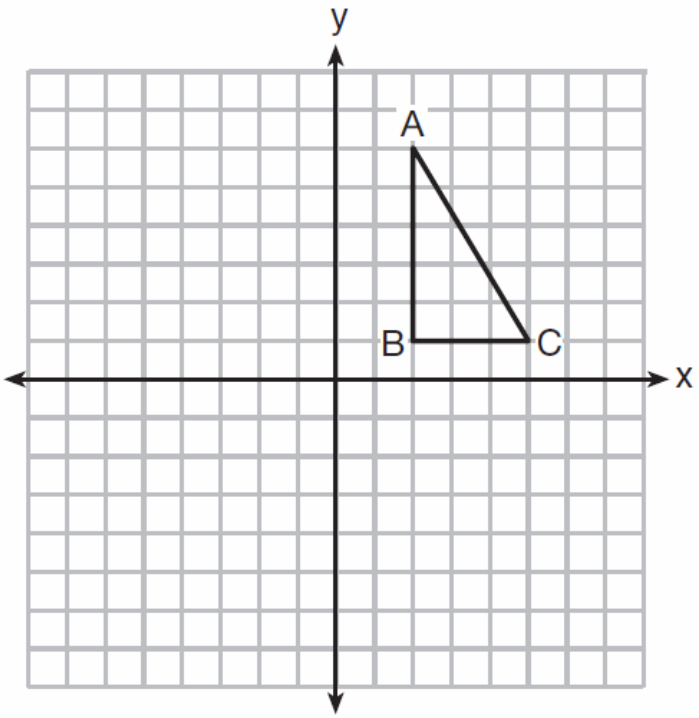
(2) (4.5,2)

(3) (5.5,5)

(4) (7.5,7)

Question 7.

Right triangle ABC is shown in the graph below.



After a reflection over the y-axis, the image of $\triangle ABC$ is $\triangle A'B'C'$. Which statement is *not* true?

(1) $\overline{BC} \cong \overline{B'C'}$

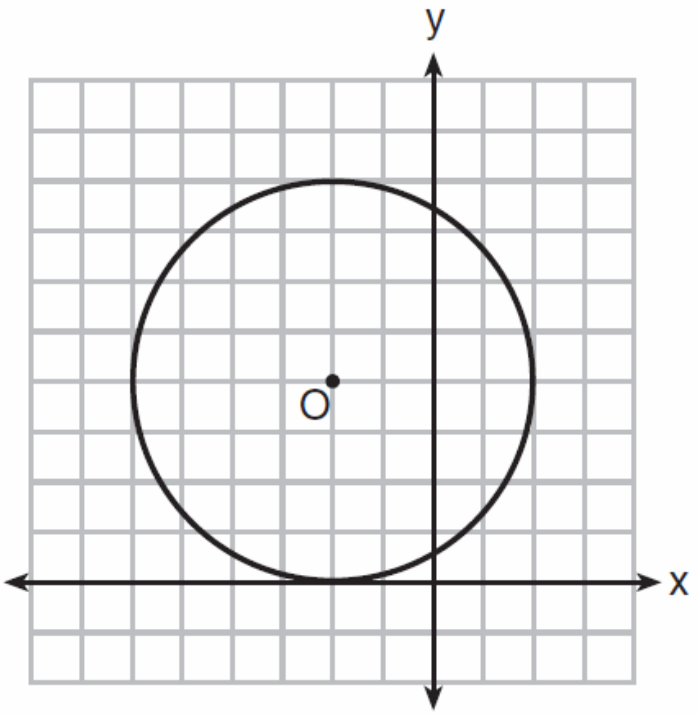
(2) $\overline{A'B'} \perp \overline{B'C'}$

(3) $AB = A'B'$

(4) $\overline{AC} \parallel \overline{A'C'}$

Question 8.

What is an equation of circle O shown in the graph below?



(1) $(x - 2)^2 + (y + 4)^2 = 4$

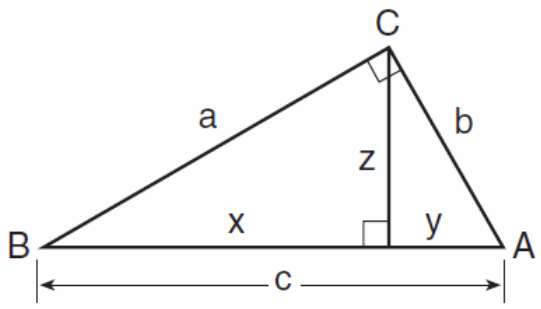
(2) $(x - 2)^2 + (y + 4)^2 = 16$

(3) $(x + 2)^2 + (y - 4)^2 = 4$

(4) $(x + 2)^2 + (y - 4)^2 = 16$

Question 9.

In the diagram below of right triangle ABC, an altitude is drawn to the hypotenuse $\overline{AB}$.



Which proportion would always represent a correct relationship of the segments?

(1) $\frac{c}{z} = \frac{z}{y}$

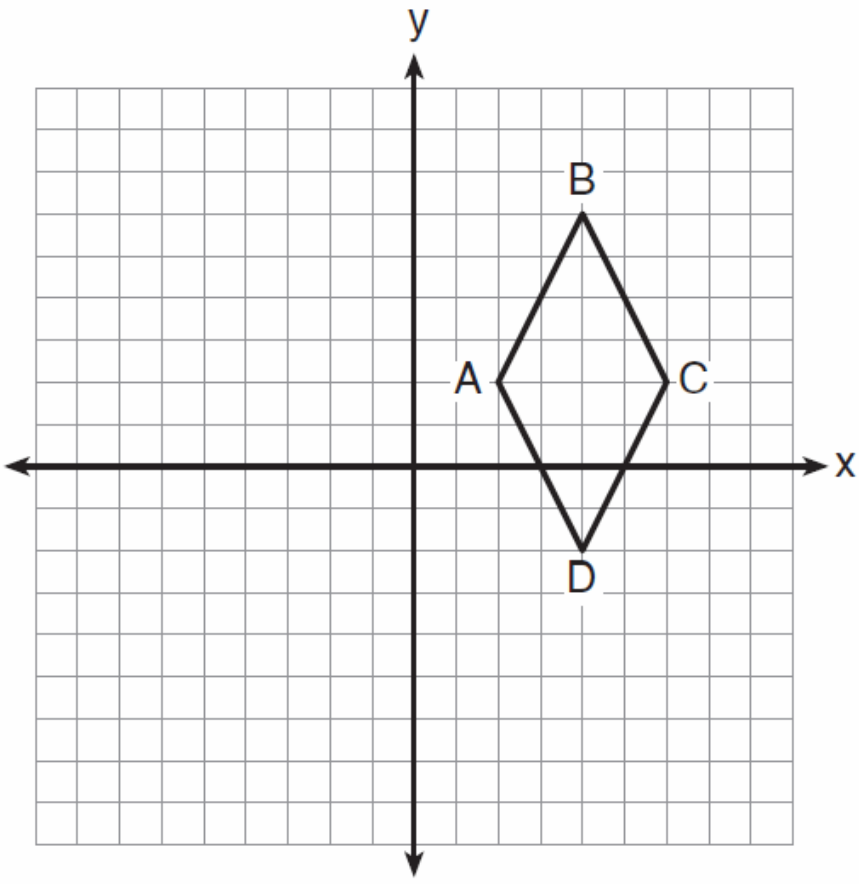
(2) $\frac{c}{a} = \frac{a}{y}$

(3) $\frac{x}{z} = \frac{z}{y}$

(4) $\frac{y}{b} = \frac{b}{x}$

Question 10.

Quadrilateral *ABCD* is graphed on the set of axes below.



Which quadrilateral best classifies *ABCD*?

(1) trapezoid

(2) rectangle

(3) rhombus

(4) square

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

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