Geometry
Daily Quiz 12112019

Question 1.

Kyle performs a transformation on a triangle. The resulting triangle is similar but not congruent to the original triangle.

Which transformation did Kyle perform on the triangle?

(A) dilation

(B) reflection

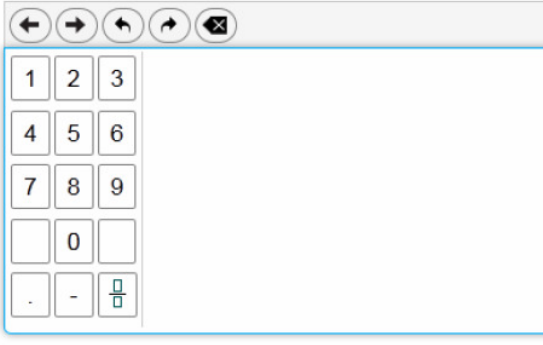
(C) rotation

(D) translation

Question 2.

Triangle ABC has vertices A (1, 1), B (2.5, 3), and C (0, –3). It is dilated by a scale factor of $\frac{1}{2}$ about the origin to create triangle A′B′C′.

What is the length, in units, of side $\overline{B'C'}$?



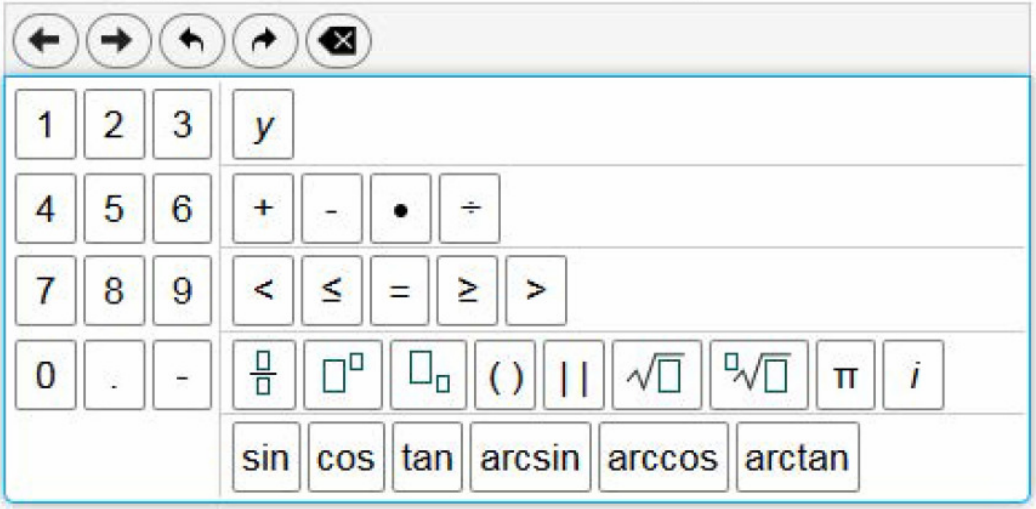
Question 3.

An equation is shown, where $0 < x < 90$ and $0 < y < 90$.

$\cos(x°) = \sin(y°)$

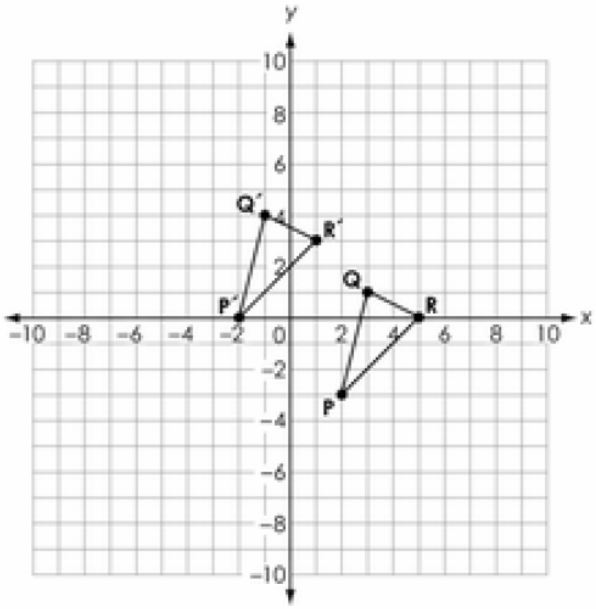
Create an expression for x in terms of y.

$x =$



Question 4.

A translation is applied to △ PQR to create △P′Q′R′.



Let the statement $(x, y) \rightarrow (a, b)$ describe the translation.

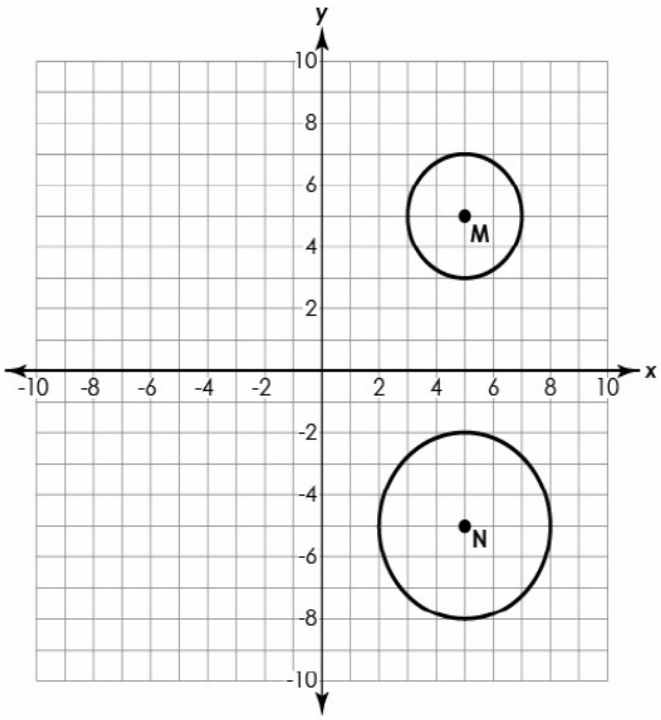
Create equations for a in terms of x and for b in terms of y that could be used to describe the translation.

$a =$

$b =$

Question 5.

Circles M and N are shown.

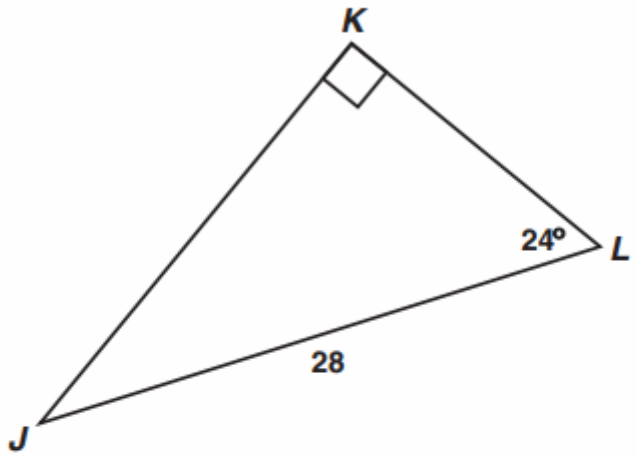


Complete the statement to explain how it can be shown that the two circles are similar.

Circle M can be mapped onto circle N by a reflection across [ ] and a dilation about the center of circle M by a scale factor of [ ].

Question 6.

Triangle *JKL* is shown below.



Which equation should be used to find the length of $\overline{JK}$?

A $\sin 24° = \frac{JK}{28}$

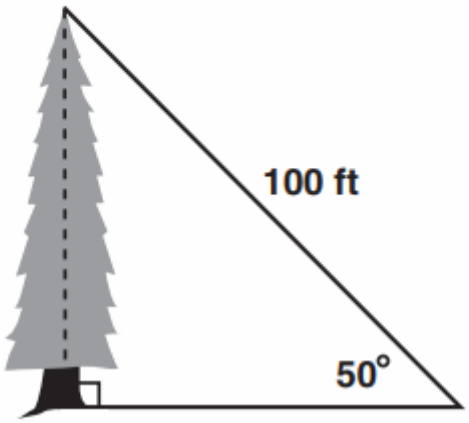
B $\sin 24° = \frac{28}{JK}$

C $\cos 24° = \frac{JK}{28}$

D $\cos 24° = \frac{28}{JK}$

Question 7.

What is the approximate height, in feet, of the tree in the figure below?



$\sin 50° \approx 0.766$
$\cos 50° \approx 0.643$
$\tan 50° \approx 1.192$

A 64.3

B 76.6

C 119.2

D 130.5

Question 8.

Students made four statements about a circle.

A: The coordinates of its center are $(4,-3)$.
B: The coordinates of its center are $(-4,3)$.
C: The length of its radius is $5\sqrt{2}$.
D: The length of its radius is 25.

If the equation of the circle is $(x+4)^2+(y-3)^2=50$, which statements are correct?

(1) A and C
(2) A and D
(3) B and C
(4) B and D

Question 9.

If $\triangle ABC \sim \triangle LMN$, which statement is *not* always true?

(1) $m\angle A = m\angle N$

(2) $m\angle B = m\angle M$

(3) $\dfrac{\text{area } \triangle ABC}{\text{area } \triangle LMN} = \dfrac{(AC)^2}{(LN)^2}$

(4) $\dfrac{\text{perimeter } \triangle ABC}{\text{perimeter } \triangle LMN} = \dfrac{AB}{LM}$

Question 10.

The equations representing lines k, m, and n are given below.

$$k: 3y + 6 = 2x$$
$$m: 3y + 2x + 6 = 0$$
$$n: 2y = 3x + 6$$

Which statement is true?

(1) $k \parallel m$

(2) $n \parallel m$

(3) $m \perp k$

(4) $m \perp n$

Bonus.

Points A, B, C, and D are located on circle O, forming trapezoid $ABCD$ with $\overline{AB} \parallel \overline{DC}$. Which statement must be true?

(1) $\overline{AB} \cong \overline{DC}$

(2) $\overset{\frown}{AD} \cong \overset{\frown}{BC}$

(3) $\angle A \cong \angle D$

(4) $\overset{\frown}{AB} \cong \overset{\frown}{DC}$

You must show your working to get your points for this problem.

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	$C = \pi d \text{ or } C = 2\pi r$
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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