Geometry
Daily Quiz 10252019

Question 1.

Which quadrilateral has diagonals that always bisect its angles and also bisect each other?

(1) rhombus
(2) rectangle
(3) parallelogram
(4) isosceles trapezoid

Question 2.

When $\triangle ABC$ is dilated by a scale factor of 2, its image is $\triangle A'B'C'$. Which statement is true?

(1) $\overline{AC} \cong \overline{A'C'}$
(2) $\angle A \cong \angle A'$
(3) perimeter of $\triangle ABC$ = perimeter of $\triangle A'B'C'$
(4) 2(area of $\triangle ABC$) = area of $\triangle A'B'C'$

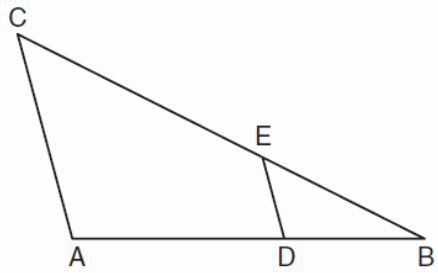
Question 3.

What is the slope of a line that is perpendicular to the line whose equation is $3x + 5y = 4$?

(1) $-\frac{3}{5}$
(2) $\frac{3}{5}$
(3) $-\frac{5}{3}$
(4) $\frac{5}{3}$

Question 4.

In the diagram below of $\triangle ABC$, D is a point on $\overline{AB}$, E is a point on $\overline{BC}$, $\overline{AC} \parallel \overline{DE}$, $CE = 25$ inches, $AD = 18$ inches, and $DB = 12$ inches. Find, to the *nearest tenth of an inch*, the length of $\overline{EB}$.



Question 5.

In circle O, diameter $\overline{RS}$ has endpoints $R(3a,2b - 1)$ and $S(a - 6,4b + 5)$. Find the coordinates of point O, in terms of a and b. Express your answer in simplest form.

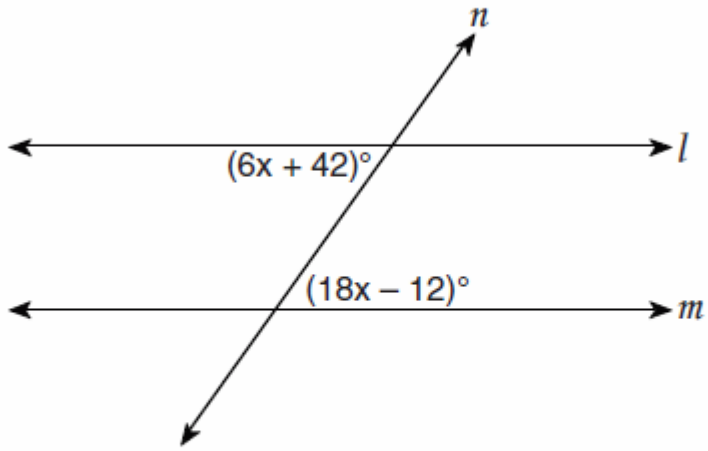
Question 6.

Solve the following system of equations graphically.

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

Question 7.

Line n intersects lines l and m, forming the angles shown in the diagram below.



Which value of x would prove $l \parallel m$?

(1) 2.5
(2) 4.5
(3) 6.25
(4) 8.75

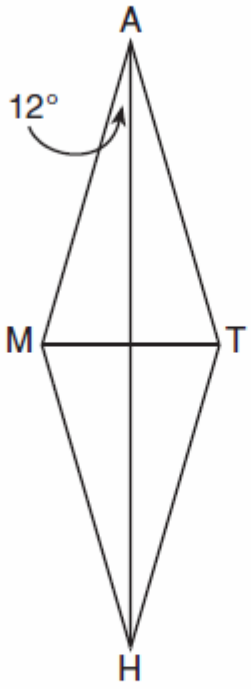
Question 8.

A circle has the equation $(x - 2)^2 + (y + 3)^2 = 36$. What are the coordinates of its center and the length of its radius?

(1) $(-2,3)$ and 6
(2) $(2,-3)$ and 6
(3) $(-2,3)$ and 36
(4) $(2,-3)$ and 36

Question 9.

In the diagram below, $MATH$ is a rhombus with diagonals $\overline{AH}$ and $\overline{MT}$.



If $m\angle HAM = 12$, what is $m\angle AMT$?

(1) 12
(2) 78
(3) 84
(4) 156

Question 10.

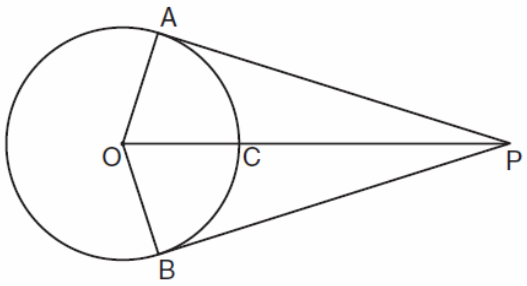
A line segment has endpoints (4,7) and (1,11). What is the length of the segment?

(1) 5
(2) 7
(3) 16
(4) 25

Bonus Question.

In the diagram below, $\overline{PA}$ and $\overline{PB}$ are tangent to circle O, $\overline{OA}$ and $\overline{OB}$ are radii, and $\overline{OP}$ intersects the circle at C.

Prove: $\angle AOP \cong \angle BOP$



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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