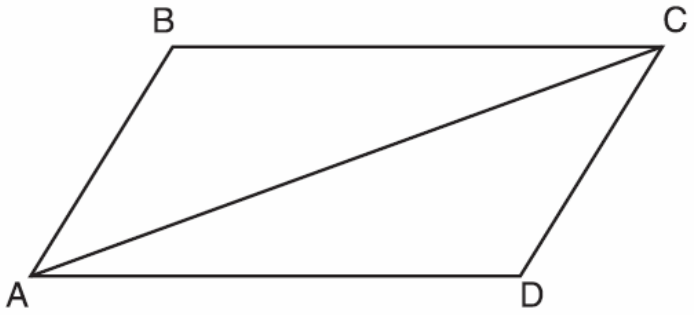
Geometry
Daily Quiz 12022019

Question 1.

Given that $ABCD$ is a parallelogram, a student wrote the proof below to show that a pair of its opposite angles are congruent.



Statement	Reason
1. ABCD is a parallelogram.	1. Given
2. $\overline{BC} \cong \overline{AD}$ $\overline{AB} \cong \overline{DC}$	2. Opposite sides of a parallelogram are congruent.
3. $\overline{AC} \cong \overline{CA}$	3. Reflexive Postulate of Congruency
4. $\triangle ABC \cong \triangle CDA$	4. Side-Side-Side
5. $\angle B \cong \angle D$	5. _____

What is the reason justifying that $\angle B \cong \angle D$?

(1) Opposite angles in a quadrilateral are congruent.
(2) Parallel lines have congruent corresponding angles.
(3) Corresponding parts of congruent triangles are congruent.
(4) Alternate interior angles in congruent triangles are congruent.

Question 2.

The equation of a circle with its center at $(-3,5)$ and a radius of 4 is

(1) $(x + 3)^2 + (y - 5)^2 = 4$

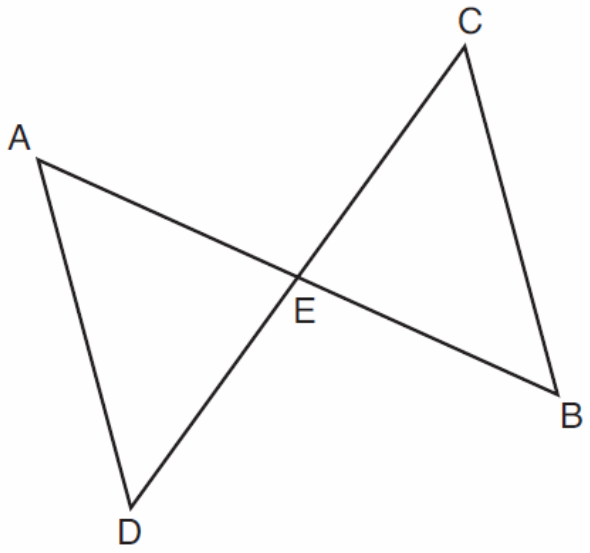
(2) $(x - 3)^2 + (y + 5)^2 = 4$

(3) $(x + 3)^2 + (y - 5)^2 = 16$

(4) $(x - 3)^2 + (y + 5)^2 = 16$

Question 3.

In the diagram below of $\triangle DAE$ and $\triangle BCE$, $\overline{AB}$ and $\overline{CD}$ intersect at E, such that $\overline{AE} \cong \overline{CE}$ and $\angle BCE \cong \angle DAE$.



Triangle DAE can be proved congruent to triangle BCE by

(1) ASA

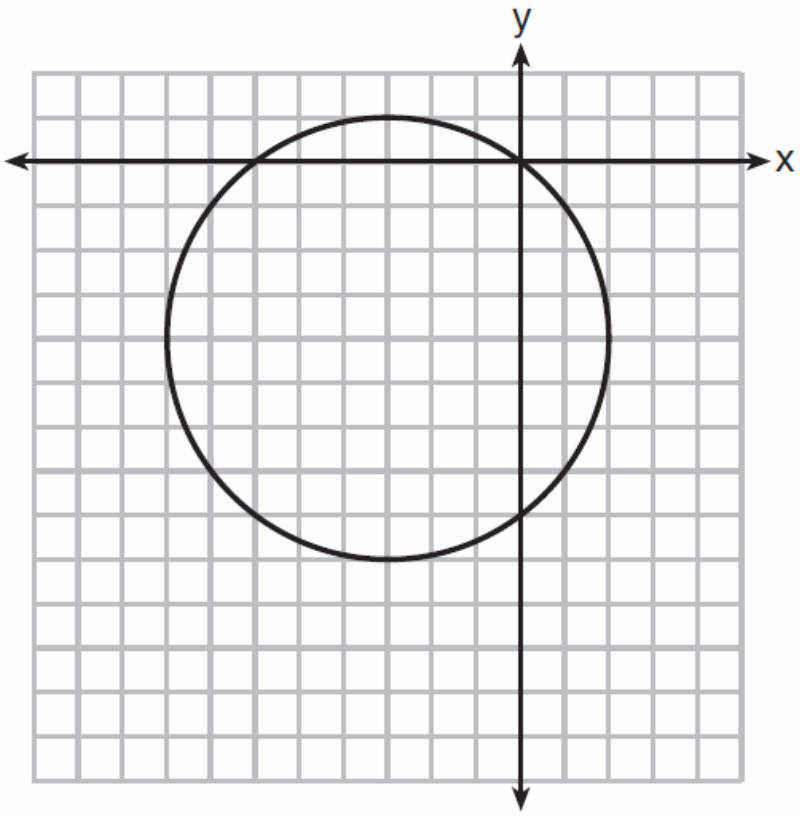
(2) SAS

(3) SSS

(4) HL

Question 4.

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



(1) $(x - 3)^2 + (y - 4)^2 = 25$

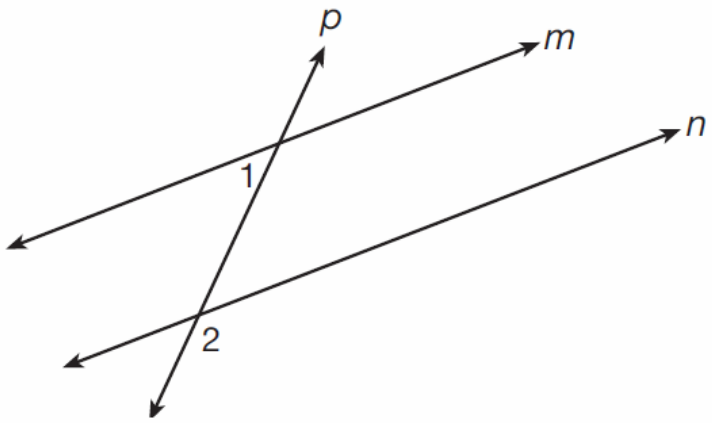
(2) $(x + 3)^2 + (y + 4)^2 = 25$

(3) $(x - 3)^2 + (y - 4)^2 = 10$

(4) $(x + 3)^2 + (y + 4)^2 = 10$

Question 5.

As shown in the diagram below, lines m and n are cut by transversal p.



If $m\angle 1 = 4x + 14$ and $m\angle 2 = 8x + 10$, lines m and n are parallel when x equals

(1) 1
(2) 6
(3) 13
(4) 17

Question 6.

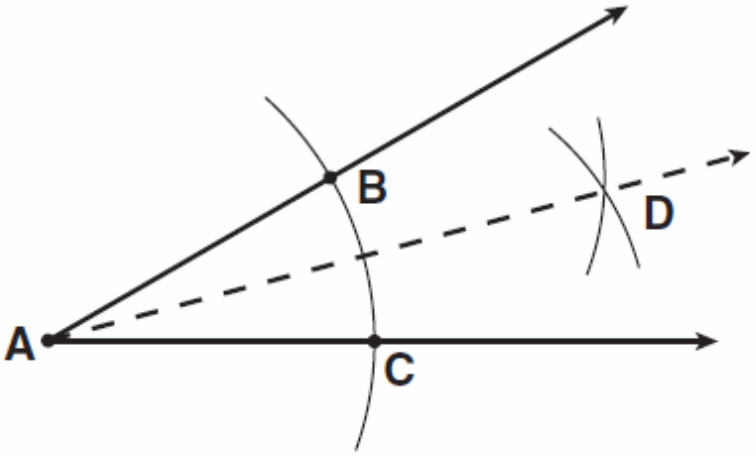
The angle formed by the radius of a circle and a tangent to that circle has a measure of

(1) 45°
(2) 90°
(3) 135°
(4) 180°

Question 7.

Given: angle A

What is the first step in constructing the angle bisector of angle A?



A Draw ray $\overrightarrow{AD}$.

B Draw a line segment connecting points B and C.

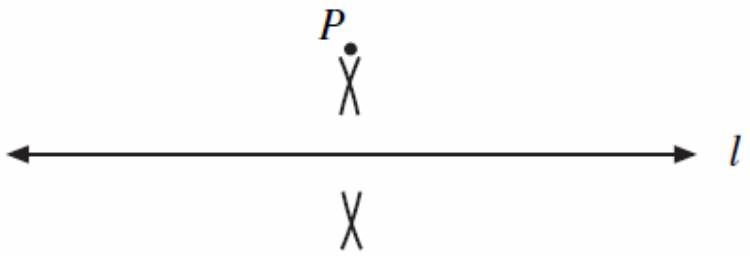
C From points B and C, draw equal arcs that intersect at D.

D From point A, draw an arc that intersects the sides of the angle at points B and C.

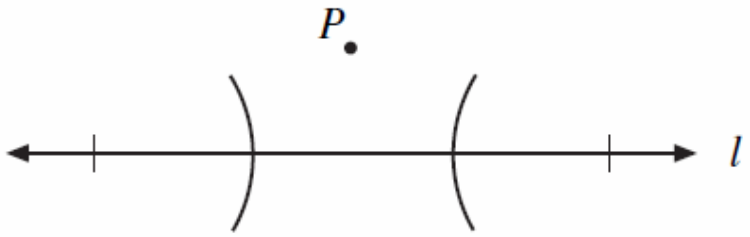
Question 8.

Scott is constructing a line perpendicular to line l from point P. Which of the following should be his first step?

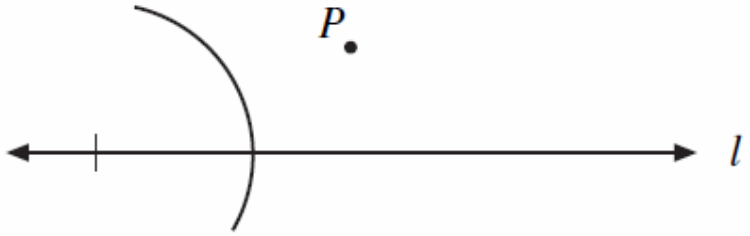
A



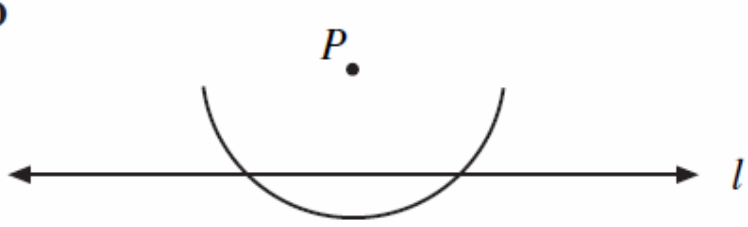
B



C



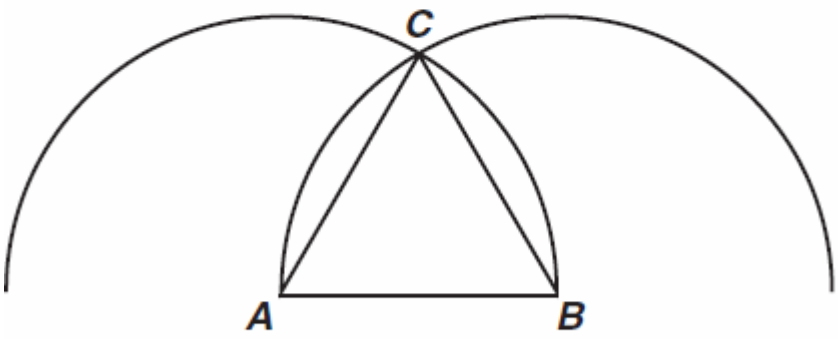
D



Question 9.

Which triangle can be constructed using the following steps?

1. Put the tip of the compass on point A.
2. Open the compass so that the pencil tip is on point B.
3. Draw an arc above $\overline{AB}$.
4. Without changing the opening, put the metal tip on point B and draw an arc intersecting the first arc at point C.
5. Draw $\overline{AC}$ and $\overline{BC}$.



A right

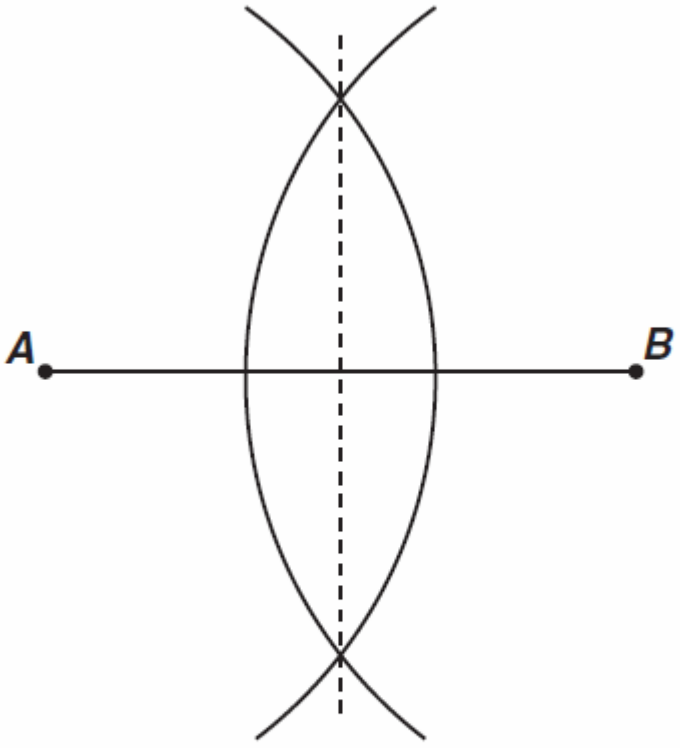
B obtuse

C scalene

D equilateral

Question 10.

What geometric construction is shown in the diagram below?



A an angle bisector

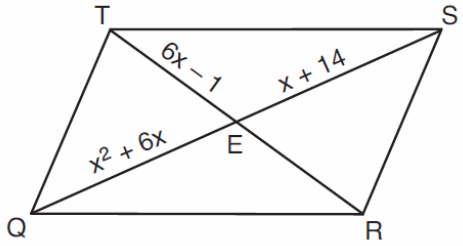
B a line parallel to a given line

C an angle congruent to a given angle

D a perpendicular bisector of a segment

Bonus.

As shown in the diagram below, the diagonals of parallelogram $QRST$ intersect at E. If $QE = x^2 + 6x$, $SE = x + 14$, and $TE = 6x - 1$, determine TE algebraically.



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	$C = \pi d \ \ or \ \ C = 2\pi r$
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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942260 1 2 3 4 5 A B C D E Printed in the USA ISD10957