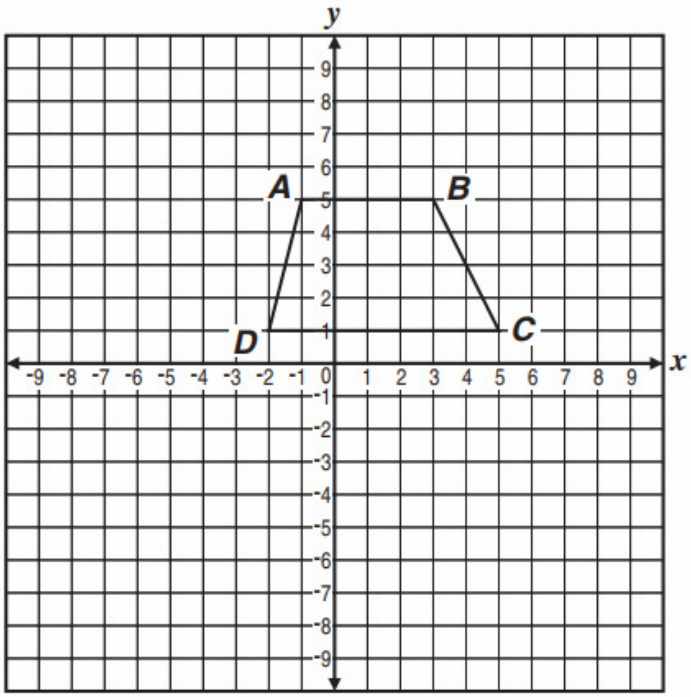
Geometry Daily Quiz 02102020

Question 1.

Trapezoid $ABCD$ below is to be translated to trapezoid $A'B'C'D'$ by the following motion rule.

$$(x, y) \rightarrow (x + 3, y - 4)$$



What will be the coordinates of vertex C'?

A $(1, -3)$

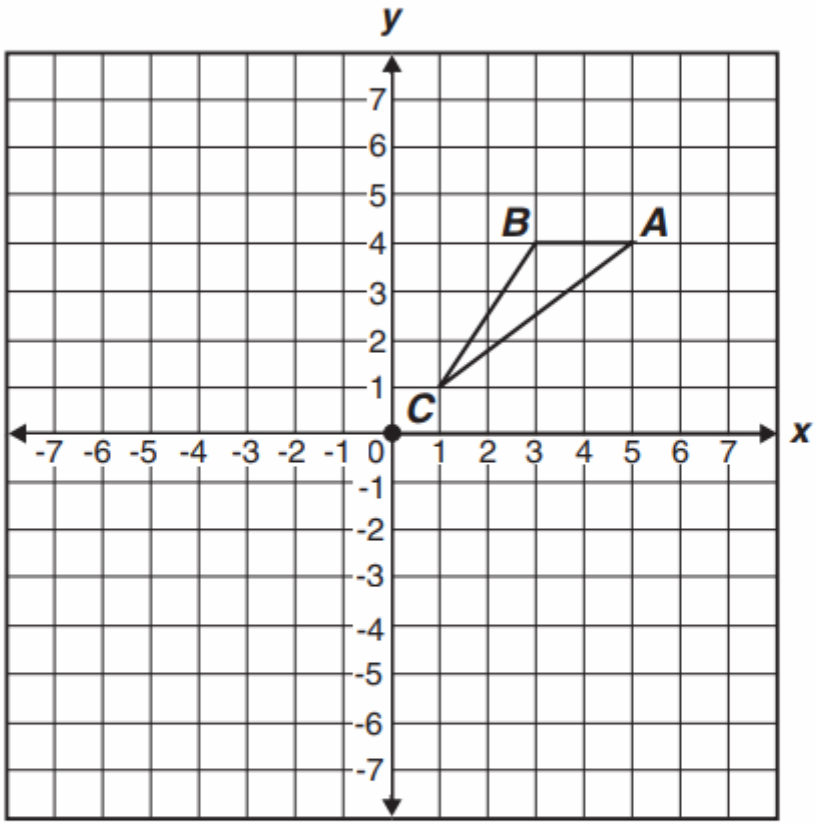
B $(2, 1)$

C $(6, 1)$

D $(8, -3)$

Question 2

If triangle ABC is rotated 180 degrees about the origin, what are the coordinates of A'?



A $(-5, -4)$

B $(-5, 4)$

C $(-4, 5)$

D $(-4, -5)$

Question 3.

The vertices of $\triangle ABC$ are $A(2, 1)$, $B(3, 4)$, and $C(1, 3)$. If $\triangle ABC$ is translated 1 unit down and 3 units to the left to create $\triangle DEF$, what are the coordinates of the vertices of $\triangle DEF$?

A $D(0, 1), E(1, 2), F(1, 3)$

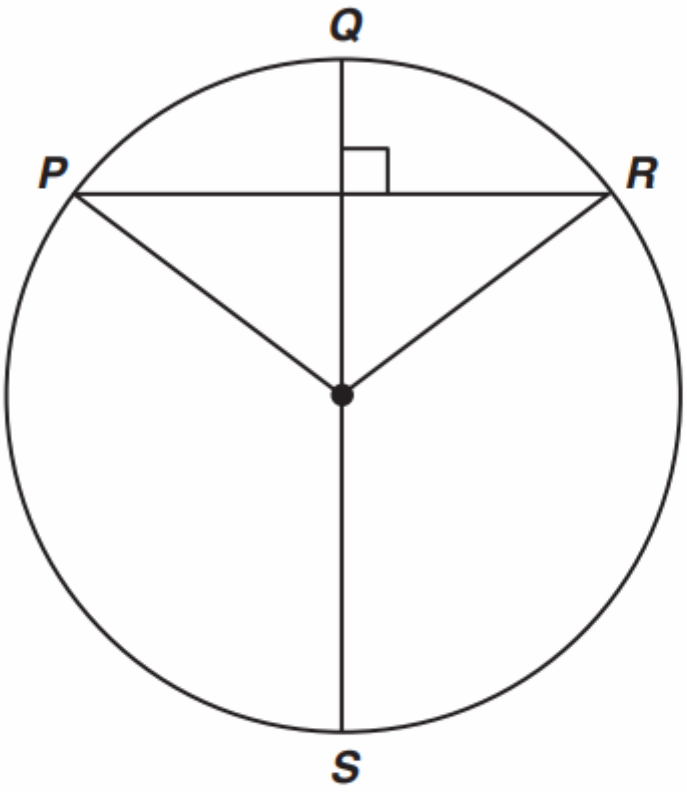
B $D(0, -1), E(0, 3), F(-2, -2)$

C $D(-2, 2), E(0, 3), F(-1, 0)$

D $D(-1, 0), E(0, 3), F(-2, 2)$

Question 4.

$\overline{QS}$ is a diameter of the circle below, and $\overline{QS} \perp \overline{PR}$.



If $m\widehat{PQR} = 106°$, what is $m\widehat{PS}$?

A 53°

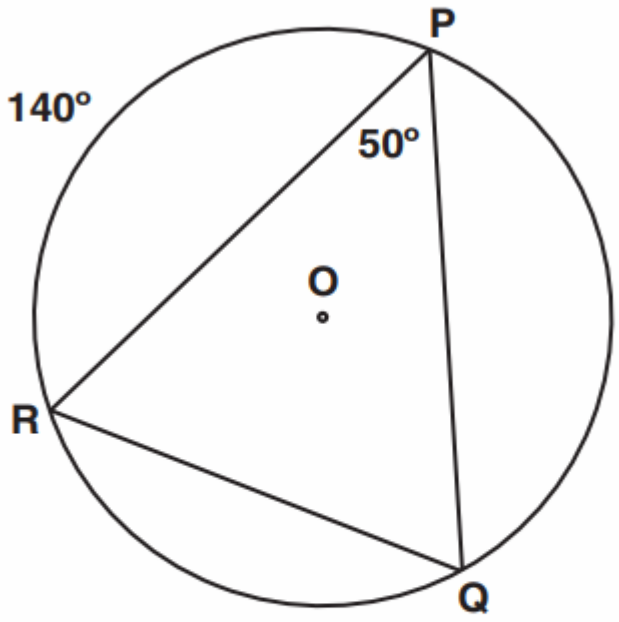
B 74°

C 106°

D 127°

Question 5.

In the circle shown below, the measure of $\overset{\frown}{PR} = 140°$ and the measure of $\angle RPQ = 50°$.



What is the measure of $\overset{\frown}{PQ}$?

A 50°

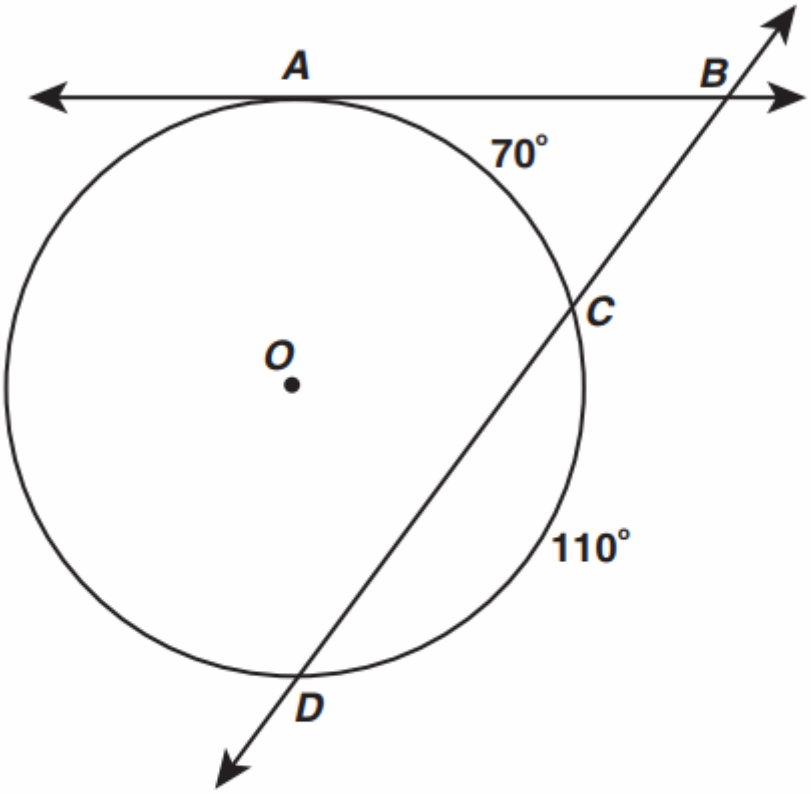
B 60°

C 70°

D 120°

Question 6.

In the figure below, $\overline{AB}$ is tangent to circle O at point A, secant $\overline{BD}$ intersects circle O at points C and D, $m\overset{\frown}{AC} = 70°$, and $m\overset{\frown}{CD} = 110°$.



What is $m\angle ABC$?

A 20°

B 40°

C 55°

D 70°

Question 7.

Which expression describes the translation of a point from $(-3, 4)$ to $(4, -1)$?

A 7 units left and 5 units up

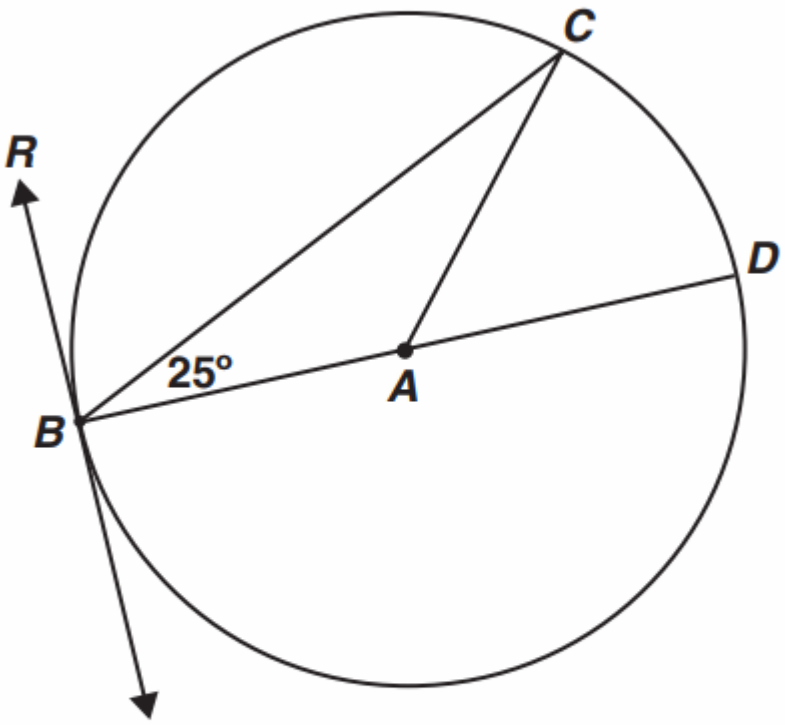
B 7 units right and 5 units up

C 7 units left and 5 units down

D 7 units right and 5 units down

Question 8.

$\overleftrightarrow{RB}$ is tangent to a circle, whose center is A, at point B. $\overline{BD}$ is a diameter.



What is $m\angle CBR$?

A 50°

B 65°

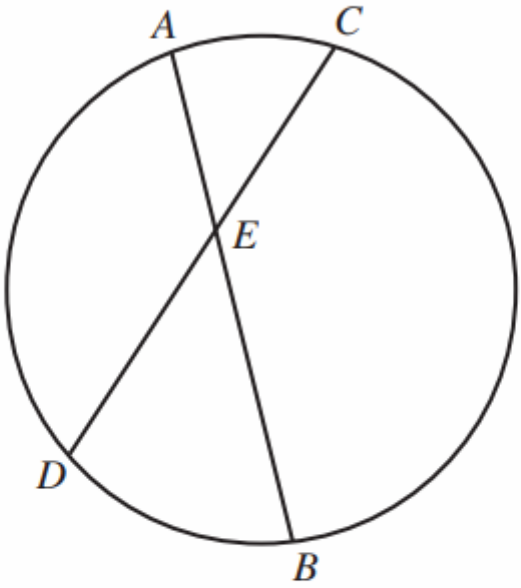
C 90°

D 130°

Question 9.

(Hint: Make similar triangles your friend.)

In the circle below, $\overline{AB}$ and $\overline{CD}$ are chords intersecting at E.



If $AE = 5$, $BE = 12$, and $CE = 6$, what is the length of $\overline{DE}$?

A 7

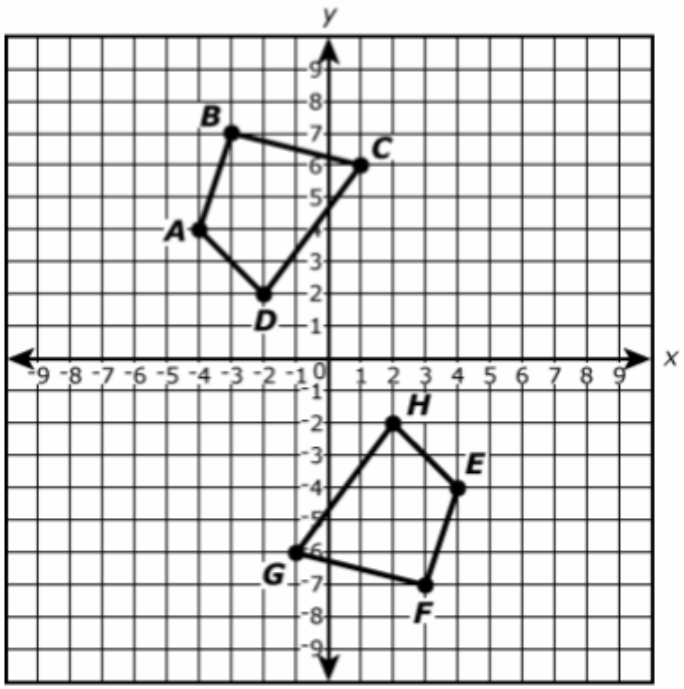
B 9

C 10

D 13

Question 10.

Quadrilaterals $ABCD$ and $EFGH$ are shown in the coordinate plane.



Part A

Quadrilateral $EFGH$ is the image of $ABCD$ after a transformation or sequence of transformations.

Which could be the transformation or sequence of transformations? Select **all** that apply.

A. a translation of 3 units to the right, followed by a reflection across the x-axis

B. a rotation of 180° about the origin

C. a translation of 12 units downward, followed by a reflection across the y-axis

D. a reflection across the y-axis followed by a reflection across the x-axis

E. a reflection across the line with equation $y = x$

Part B

Quadrilateral $ABCD$ will be reflected across the x-axis and the rotated 90° clockwise about the origin to create quadrilateral $A'B'C'D'$. What will be the y-coordinate of B'?

Bonus

Point B is the center of a circle, and $\overline{AC}$ is a diameter of the circle. Point D is a point on the circle different from A and C.

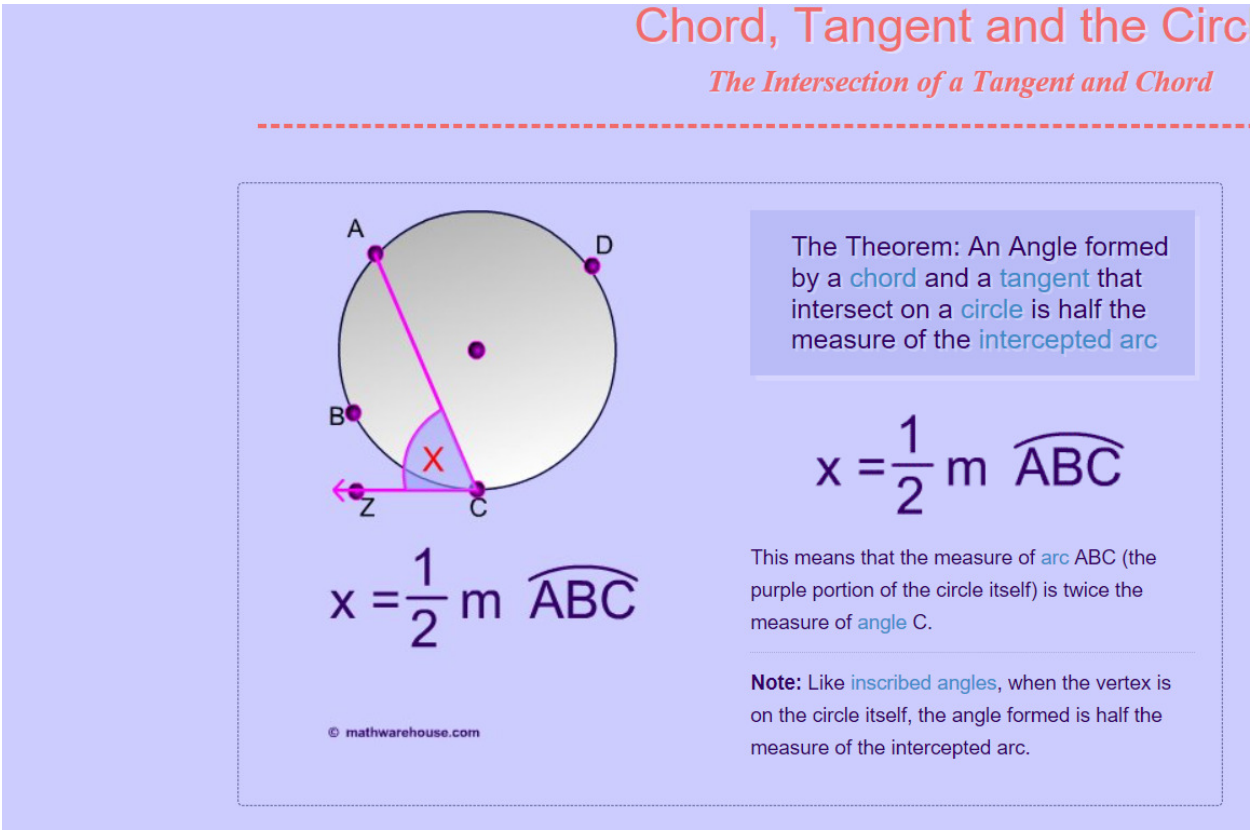
If $m\angle BDA = 20°$, what is $m\angle CBD$?

A. 20°

B. 40°

C. 70°

D. 140°



http://www.mathwarehouse.com/geometry/circle/angle-tangent-and-chord.php

Converse, Inverse, Contrapositive

Given an if-then statement "if p , then q ," we can create three related statements:

A conditional statement consists of two parts, a hypothesis in the “if” clause and a conclusion in the “then” clause. For instance, “If it rains, then they cancel school.”

"It rains" is the hypothesis.

"They cancel school" is the conclusion.

To form the converse of the conditional statement, interchange the hypothesis and the conclusion.

The converse of *"If it rains, then they cancel school"* is *"If they cancel school, then it rains."*

To form the inverse of the conditional statement, take the negation of both the hypothesis and the conclusion.

The inverse of *“If it rains, then they cancel school”* is *“If it does not rain, then they do not cancel school.”*

To form the contrapositive of the conditional statement, interchange the hypothesis and the conclusion of the inverse statement.

The contrapositive of *"If it rains, then they cancel school"* is *"If they do not cancel school, then it does not rain."*

The link to the above information.
https://www.varsitytutors.com/hotmath/hotmath_help/topics/converse-inverse-contrapositive

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