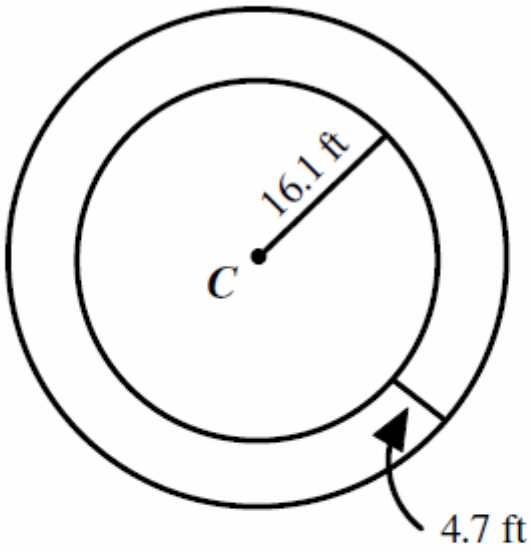
Geometry Daily Quiz
01292020
This is another Christmas in January gift to you. Make sure you get 110!

Question 1.

In the figure below, *C* is the center of both circles.

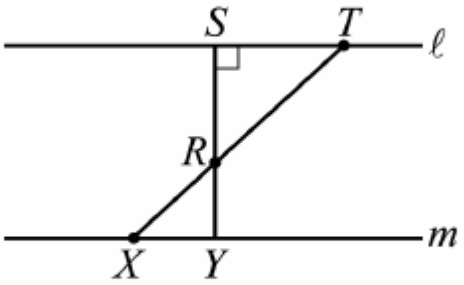


What is the circumference of the larger circle?

A 32.2π ft
B 20.8π ft
C 41.6π ft
D 9.4π ft

Question 2

In the figure below, line ℓ is parallel to line m. If $RS = ST$, what is the measure of $\angle RXY$?



A 30°
B 45°
C 60°
D 90°

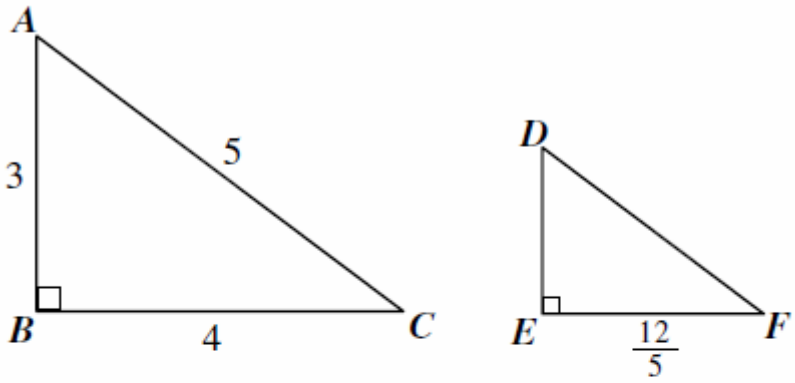
Question 3.

Which statement about a parallelogram must be true?

A All of its sides are the same length.
B Its diagonals are the same length.
C Its opposite angles have the same measure.
D At least one angle is a right angle.

Question 4.

The following triangles are similar.



What is the measure of $\overline{DE}$?

A $\frac{6}{5}$

B $\frac{8}{5}$

C $\frac{9}{5}$

D 2

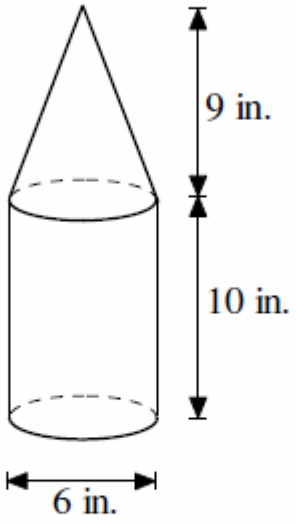
Question 5.

Four points lie in a plane so that no three of them lie on a line. If lines are drawn connecting all pairs of these points, how many such lines are there?

A 4
B 6
C 8
D 12

Question 6.

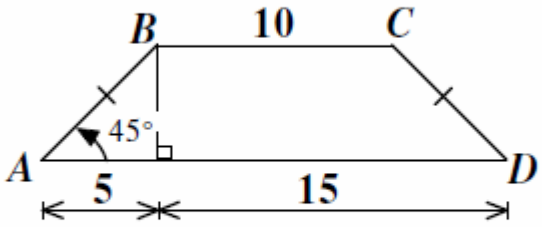
What is the volume of the figure below?



A 86π cubic inches
B 104π cubic inches
C 117π cubic inches
D 171π cubic inches

Question 7.

What is the area of isosceles trapezoid *ABCD*?



A 62.5 square units
B 75.0 square units
C 76.4 square units
D 150 square units

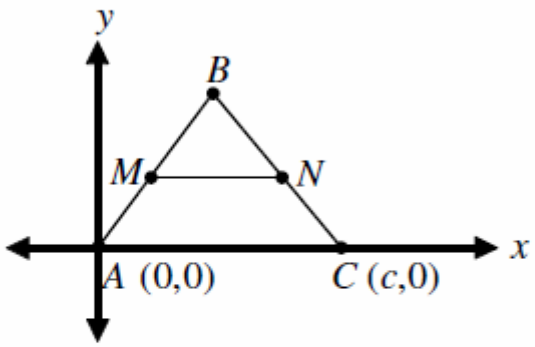
Question 8.

An open area at a local high school is in the shape of a quadrilateral. Two sidewalks crisscross this open area as diagonals of the quadrilateral. If the walkways cross at their midpoints and the walkways are equal in length, what is the shape of the open area?

A a parallelogram
B a rhombus
C a rectangle
D a trapezoid

Question 9.

In the coordinate system below, to prove that segment $\overline{MN}$ is parallel to segment $\overline{AC}$, which of the following must be shown?



A The length of $\overline{MN}$ is half the length of $\overline{AC}$.

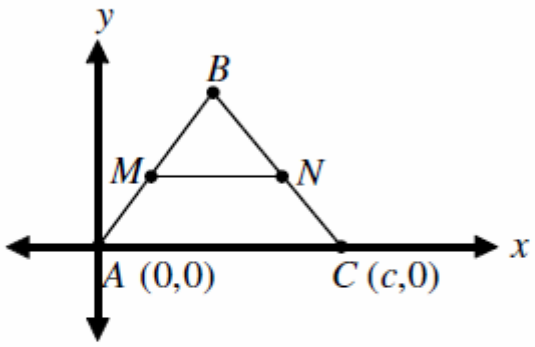
B The slope of $\overline{MN}$ equals the slope of $\overline{AC}$.

C The length of $\overline{AM}$ equals the length of $\overline{MB}$.

D The length of $\overline{AM}$ equals the length of $\overline{CN}$.

Question 10.

In the coordinate system below, to prove that segment $\overline{MN}$ is parallel to segment $\overline{AC}$, which of the following must be shown?



A The length of $\overline{MN}$ is half the length of $\overline{AC}$.

B The slope of $\overline{MN}$ equals the slope of $\overline{AC}$.

C The length of $\overline{AM}$ equals the length of $\overline{MB}$.

D The length of $\overline{AM}$ equals the length of $\overline{CN}$.

Bonus

Non-Calculator Part (continued)

6. The equation $x^2 + y^2 - 4x + 2y = b$ describes a circle.

Part A

Determine the y-coordinate of the circle.

Enter your answer in the box.

Part B

The radius of the circle is 7 units. What is the value of b in the equation?

Enter your answer in the box.

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