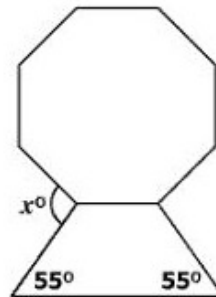Geometry Daily Quiz 02282020

We have to keep working on speed and accuracy. This one is too easy to be true.

Question 1.

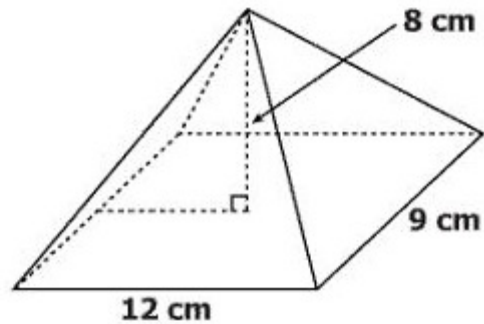**This figure is composed of an isosceles trapezoid and a regular octagon.**

What is the value of x ?

○ **A** 100

○ **B** 125

○ **C** 135

○ **D** 190

Question 2

A rectangular pyramid is shown.

8 cm

9 cm

12 cm

What is the volume of the pyramid?

A 864 cm³

B 432 cm³

C 288 cm³

D 108 cm³

Question 3.

A company is creating a new cylindrical container to replace its original cylindrical container.

- **The new container will have 4 times the volume of the original container.**
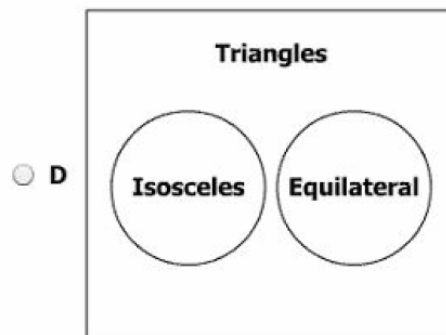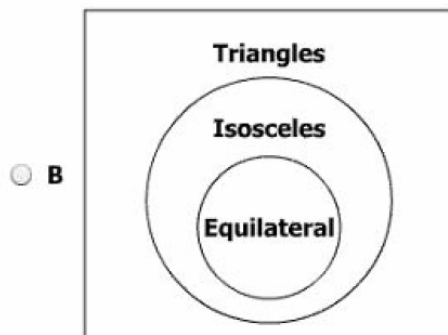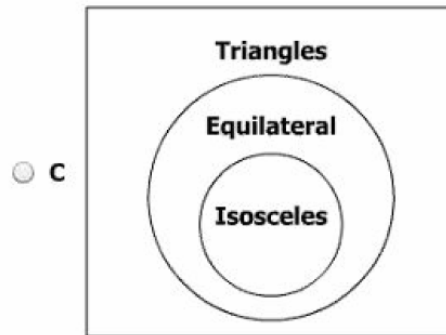- **The height of the new container will remain the same as the height of the original container.**
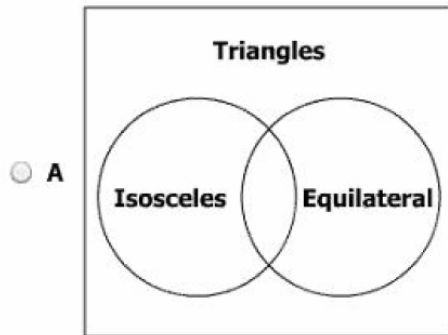
The length of the radius of the new container will be —

A 2 times the length of the radius of the original container

B 4 times the length of the radius of the original container

C 8 times the length of the radius of the original container

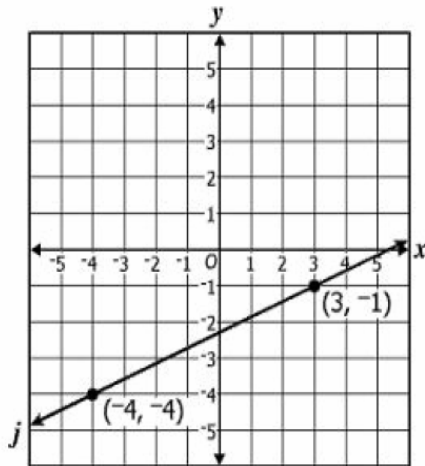D 16 times the length of the radius of the original container

Question 4.

Which Venn diagram accurately represents the information in the following statement?

If a triangle is equilateral, then it is isosceles.

A

Triangles

Isosceles | Equilateral

C

Triangles

Equilateral

Isosceles

B

Triangles

Isosceles

Equilateral

D

Triangles

Isosceles | Equilateral

Question 5.

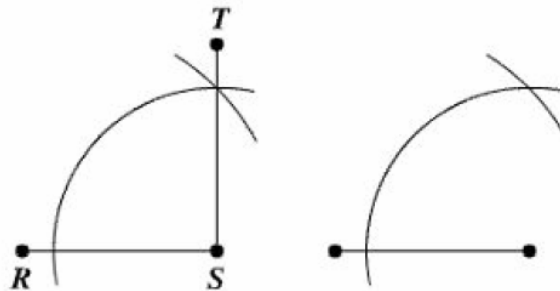**The graph of line _j_ is shown.**

(3, −1)

(−4, −4)

Which ratio represents the slope of a line parallel to line _j_ ?

A $\frac{3}{7}$
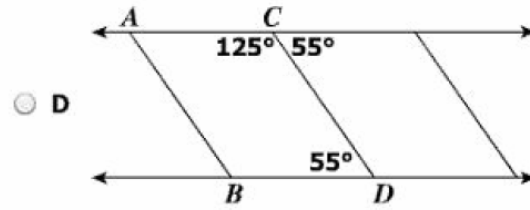
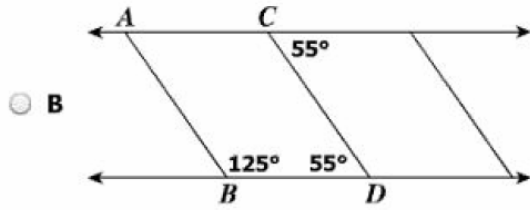B $\frac{5}{7}$

C $\frac{7}{5}$

D $\frac{7}{3}$

Question 6.

Which type of construction is illustrated in the figure?

A The bisector of a given angle

B An angle congruent to a given angle

C A line segment congruent to a given line segment

D A line segment perpendicular to a given line segment

Question 7.

The diagrams represent the stripes used to mark parking spaces on a lot. Based only on the information given, which diagram could be used to prove $\overline{AB} \parallel \overline{CD}$ and $\overline{AC} \parallel \overline{BD}$?

○ **A**

A C
125°

55° 125°
B   D

○ **C**

A C

55° 125° 55°
B   D

○ **B**

A C
55°

125° 55°
B   D

○ **D**

A   C
125° 55°

55°
B   D
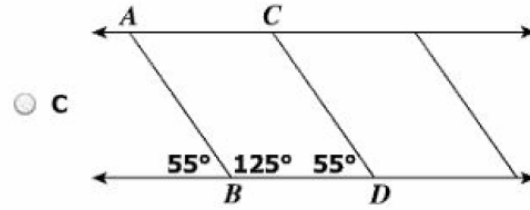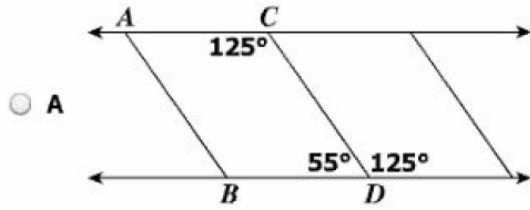
Question 8.

Given statements:

If a shape is a parallelogram, then opposite angles are congruent.
A rhombus is a parallelogram.

Which is a logical conclusion from the given statements?

○ **A** A rhombus has opposite angles that are congruent.

○ **B** The opposite sides of a rhombus are congruent.

○ **C** The diagonals of a rhombus are congruent.

○ **D** A rhombus is a quadrilateral.

Question 9.

Which figure appears to have exactly two lines of symmetry?

A

B

C

D
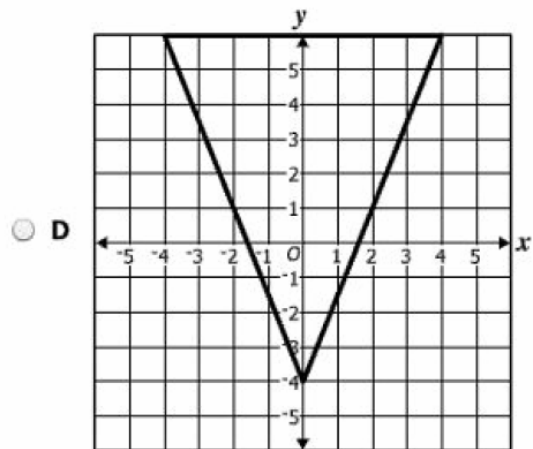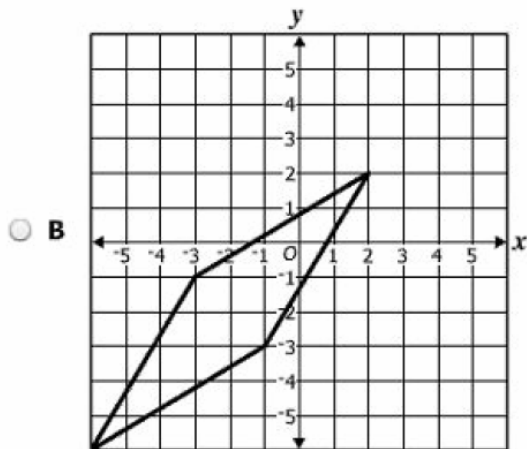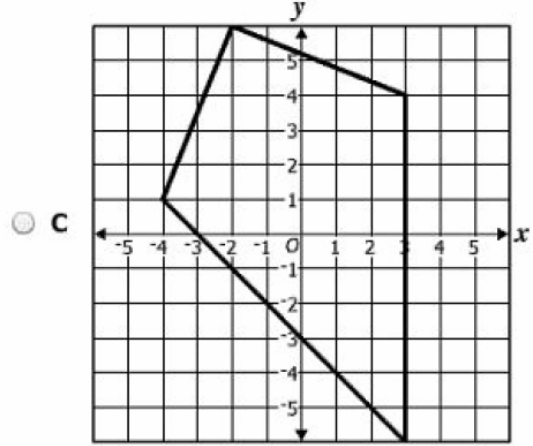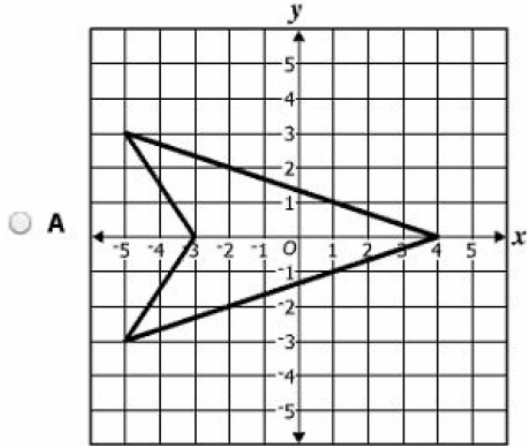
Question 10.

Which is the converse of the following statement?

$$\text{If } \frac{a}{b} = c, \text{ then } a = bc.$$

○ **A** If $\frac{a}{b} \neq c$, then $a \neq bc$.

○ **B** If $a = bc$, then $\frac{a}{b} = c$.

○ **C** If $a \neq bc$, then $\frac{a}{b} \neq c$.

○ **D** If $\frac{a}{b} = c$, then $a \neq bc$.

Bonus

Chord, Tangent and the Circ

The Intersection of a Tangent and Chord

The Theorem: An Angle formed by a chord and a tangent that intersect on a circle is half the measure of the intercepted arc

$$x = \frac{1}{2} m \ \widehat{ABC}$$

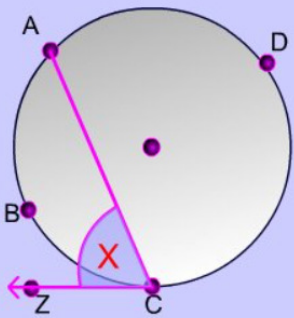This means that the measure of arc ABC (the purple portion of the circle itself) is twice the measure of angle C.

Note: Like inscribed angles, when the vertex is on the circle itself, the angle formed is half the measure of the intercepted arc.

$$x = \frac{1}{2} m \ \widehat{ABC}$$

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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 kilometer = 0.62 mile	1 cup = 8 fluid ounces
1 meter = 39.37 inches	1 pound = 16 ounces	1 pint = 2 cups
1 mile = 5280 feet	1 pound = 0.454 kilograms	1 quart = 2 pints
1 mile = 1760 yards	1 kilogram = 2.2 pounds	1 gallon = 4 quarts
1 mile = 1.609 kilometers	1 ton = 2000 pounds	1 gallon = 3.785 liters
		1 liter = 0.264 gallons
		1 liter = 1000 cubic centimeters

Triangle	$A = \dfrac{1}{2} bh$
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	$V = \dfrac{4}{3} \pi r^3$
Cone	$V = \dfrac{1}{3} \pi r^2 h$
Pyramid	$V = \dfrac{1}{3} Bh$

Quadratic Formula	$x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
Arithmetic Sequence	$a_n = a_1 + (n-1)d$
Geometric Sequence	$a_n = a_1 r^{n-1}$
Geometric Series	$S_n = \dfrac{a_1 - a_1 r^n}{1-r}$ where $r \neq 1$
Radians	1 radian = $\dfrac{180}{\pi}$ degrees
Degrees	1 degree = $\dfrac{\pi}{180}$ radians