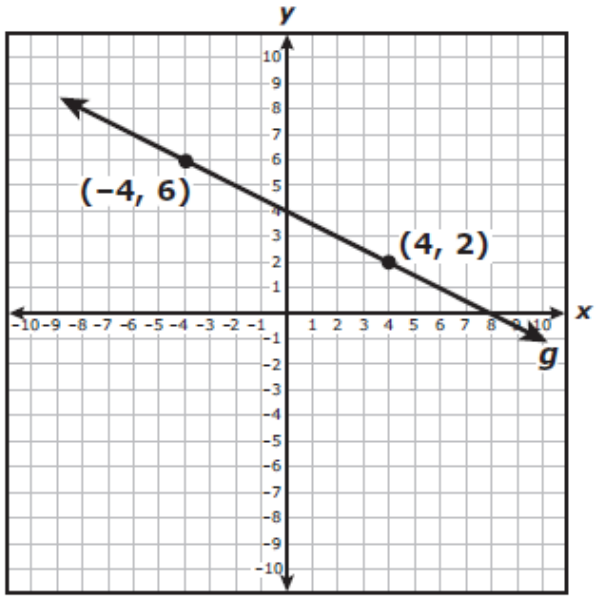
Geometry Daily Quiz
01102020

Question 1.

The graph of line g is shown below.



Which equation describes a line parallel to line g that has a y-intercept at $(0, -1)$?

A $y = 2x - 1$

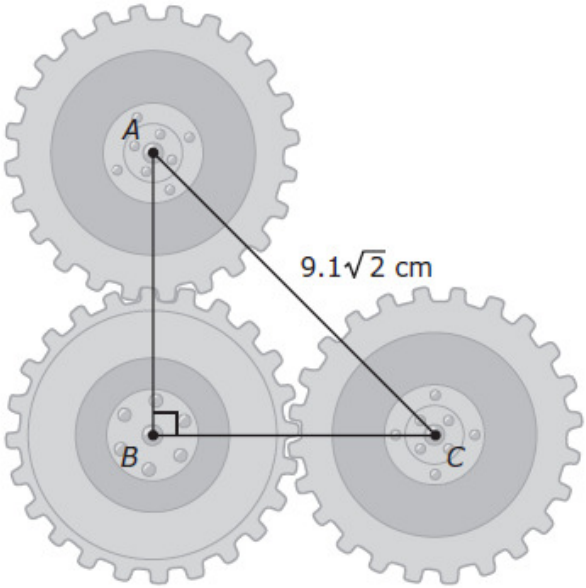
B $y = \frac{1}{2}x - 1$

C $y = -\frac{1}{2}x - 1$

D $y = -2x - 1$

Question 2

Three gears in a machine are positioned relative to each other to form an isosceles right triangle, as shown below.



What is the distance in centimeters between the centers of the gears located at *B* and *C*?

Question 3.

The following conditional statement is true.

> If a quadrilateral is a square, then it has four congruent sides.

Which statement must also be true?

A If a quadrilateral has four congruent sides, then it is a square.

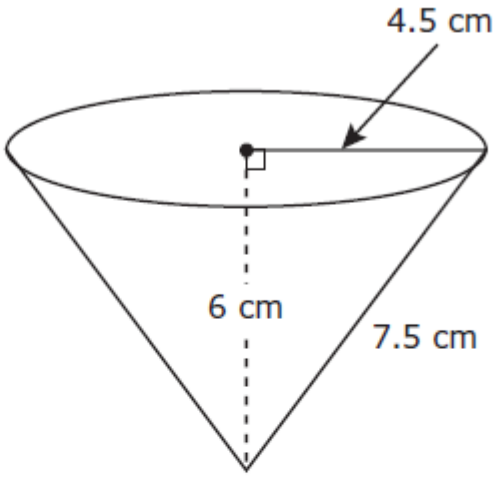
B If a quadrilateral does not have four congruent sides, then it is not a square.

C If a quadrilateral is not a square, then it does not have four congruent sides.

D If a quadrilateral does not have four congruent sides, then it is a square.

Question 4.

A conical paper cup is shown in the diagram below.



Which value is closest to the maximum volume of water this cup can hold?

F 159 cm^3

G 32 cm^3

H 127 cm^3

J 40 cm^3

Question 5.

Which statement about a triangular prism is true?

F A triangular prism has 4 faces, 6 edges, and 4 vertices.

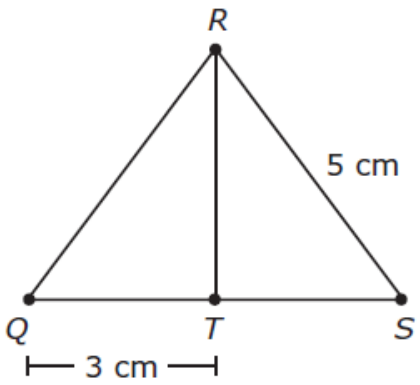
G A triangular prism has 3 faces, 6 edges, and 3 vertices.

H A triangular prism has 5 faces, 9 edges, and 6 vertices.

J A triangular prism has 6 faces, 11 edges, and 8 vertices.

Question 6.

In ΔQRS, $\overline{RT}$ is an altitude.



Which additional condition would not be sufficient to prove that $QR = SR$?

A T is the midpoint of $\overline{QS}$.

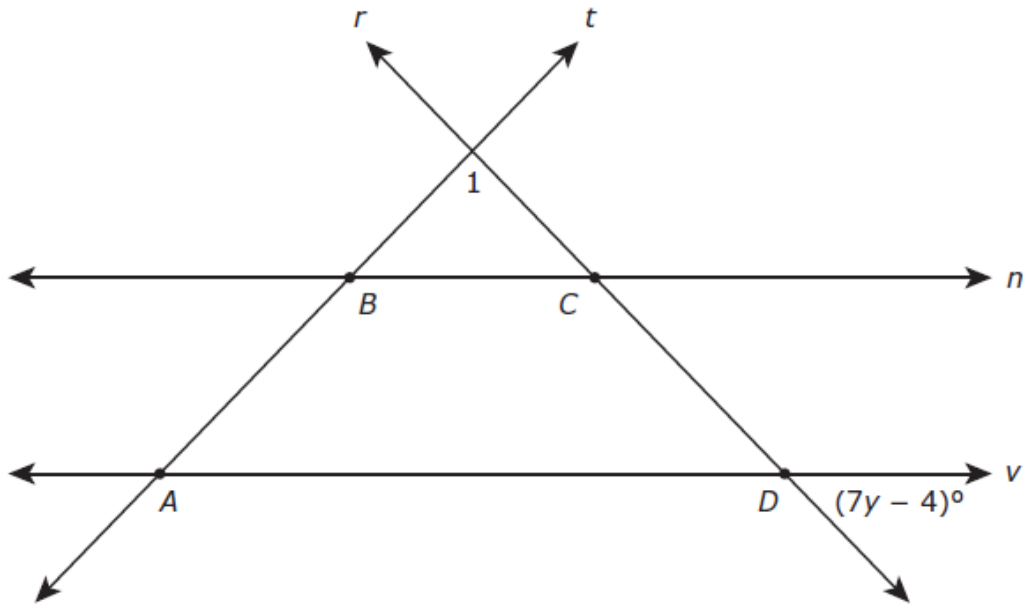
B $\overline{RT}$ bisects $\angle QRS$.

C $TS = 2$ cm

D $RT = 4$ cm

Question 7.

Lines r, t, n, and v intersect as shown to form isosceles trapezoid $ABCD$.



Which expression represents the measure of $\angle 1$ in degrees?

F $180 \div (7y - 4)$

G $180 - 2(7y - 4)$

H $(7y - 4)$

J $180 - (7y - 4)$

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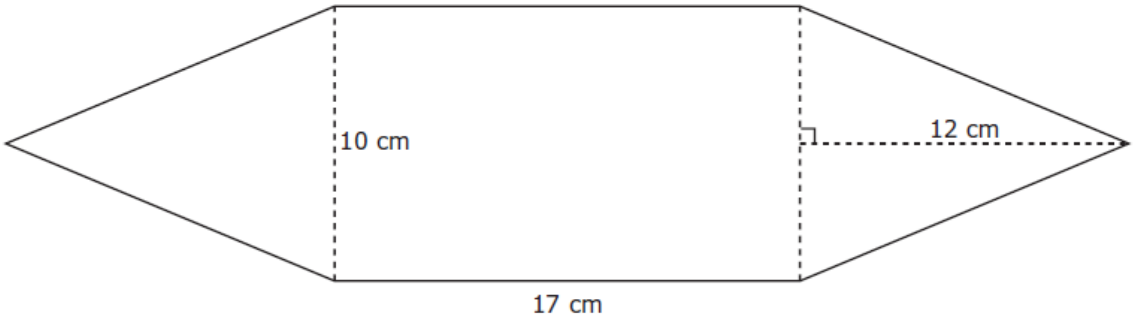
Question 8.

A banner is composed of two congruent triangles and a rectangle, as shown below.

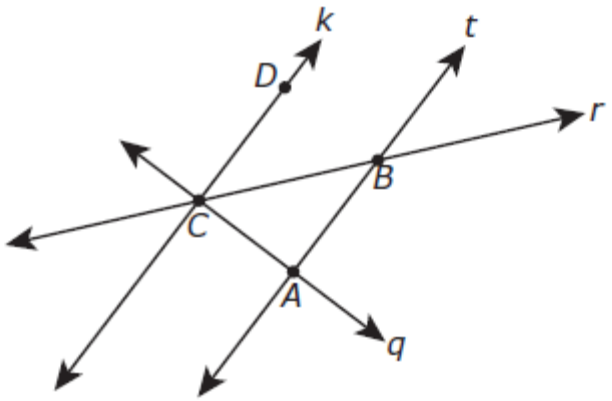


What is the total area of the banner in square centimeters?

Record your answer and fill in the bubbles on your answer document.

Question 9.

In the figure below, $k \parallel t$ and $k \perp q$.



Based on this information, which statement can be proved true?

F $\angle ACB \cong \angle ABC$

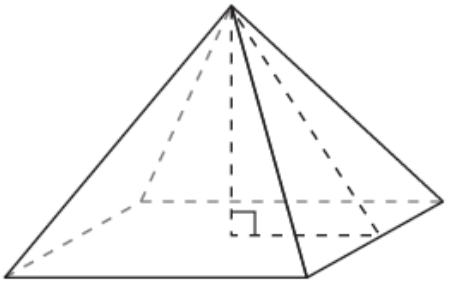
G ΔCAB is an acute triangle.

H $\angle DCB \cong \angle BCA$

J ΔCAB is a right triangle.

Question 10.

The main entrance to the Louvre art museum is shaped like a pyramid. The pyramid is 71 feet tall and has a slant height of approximately 91 feet. Each side of the square base measures 115 feet.



Which of the following is closest to the lateral surface area of the pyramid?

A $20,930\ ft^2$

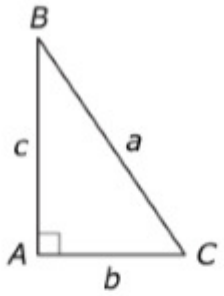
B $16,330\ ft^2$

C $10,465\ ft^2$

D $34,155\ ft^2$

Bonus

The figure shows right $\triangle ABC$.



Which of the listed values are equal to the sine of B?

Select **all** that apply.

- [ ] A. $\frac{b}{c}$
- [ ] B. $\frac{c}{a}$
- [ ] C. $\frac{b}{a}$
- [ ] D. the cosine of B
- [ ] E. the cosine of C
- [ ] F. the cosine of $(90^\circ - B)$
- [ ] G. the sine of $(90^\circ - C)$

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