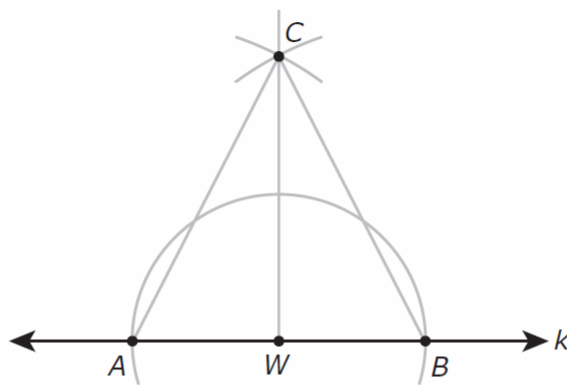Geometry Daily Quiz
01132020

Question 1.

The diagram below shows the arcs and segments used to construct $\triangle ABC$, given line k.
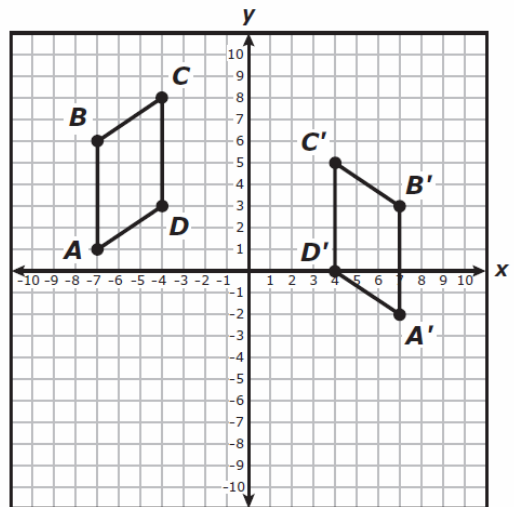

Based on this construction, which statement is not true?

A $\angle AWC$ is complementary to $\angle CWB$.

B $\triangle CWB$ is a right triangle.

C $\triangle ACB$ is isosceles.

D $m\angle CAB = m\angle CBA$

Question 2

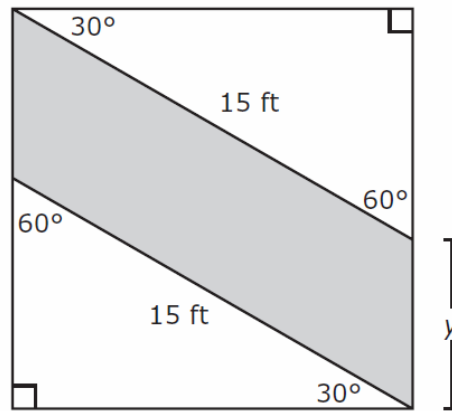Parallelogram *ABCD* was transformed to form parallelogram *A′B′C′D′*.

Which rule describes the transformation that was used to form parallelogram *A′B′C′D′*?

F $(x, -y)$

G $(-x, y)$

H $(x + 6, -y)$

J $(-x, y - 3)$

Question 3.

Within a square section of land, a landscaper will build a path, as represented by the shaded section in the diagram below.

Which measure is closest to the value of *y*?

A 5.5 ft
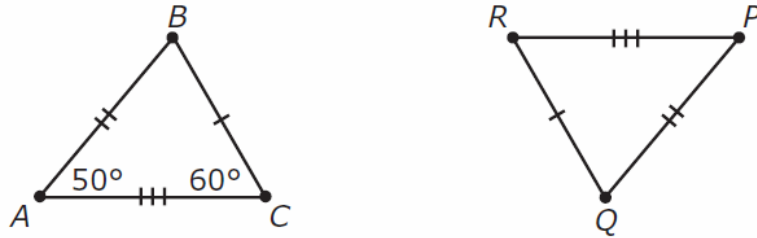
B 3.1 ft

C 4.3 ft

D 7.5 ft

Question 4.

The top of a bench has a length of 5 ft and a width of 2 ft. A second bench is similar to the first bench. The top of the second bench is 3 ft wide. What is the length of the top of the second bench?

F 6 ft

G 7 ft

H 4.5 ft

J 7.5 ft

$\triangle ABC$ and $\triangle PQR$ are shown in the diagram below.

Based on the information provided in the diagram, what is $m\angle P$ in degrees?

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

A civil engineer is drawing a plan for the location and length of a new underground sewer pipe on a coordinate grid. The pipe on the plan will run from point N $(a, -2)$ to point P $(1, b)$ on the coordinate grid. Which expression represents the shortest distance between N and P in units?

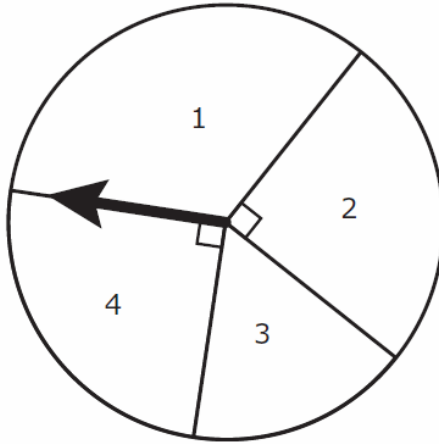**F** $(a + 2)^2 + (1 - b)^2$

G $(1 - a)^2 + (b + 2)^2$

H $\sqrt{(a + 2)^2 + (1 - b)^2}$

J $\sqrt{(1 - a)^2 + (b + 2)^2}$

Question 7.

In the spinner modeled below, Sector 1 has twice the area of Sector 3.

If the arrow is spun once, what is the probability that the arrow will land in Sector 1?

A $\dfrac{1}{3}$ C $\dfrac{1}{6}$

B $\dfrac{1}{4}$ D $\dfrac{2}{3}$

.
Question 8.

A triangle is enlarged by multiplying each of its dimensions by 4. Based on this information, which of the following statements is true?

F The perimeter of the new triangle is 12 times the perimeter of the original triangle.

G The perimeter of the new triangle is 16 times the perimeter of the original triangle.

H The perimeter of the new triangle is 18 times the perimeter of the original triangle.

J The perimeter of the new triangle is 4 times the perimeter of the original triangle.

Question 9.

The slopes of the sides of quadrilateral *ABCD* are shown in the table below.

Side	Slope
$\overline{AB}$	$\dfrac{2}{5}$
$\overline{BC}$	$-\dfrac{2}{5}$
$\overline{CD}$	$\dfrac{2}{5}$
$\overline{AD}$	$-\dfrac{5}{2}$

Which statement describes the relationships between the sides of the quadrilateral?

A $\overline{AD}$ is parallel to $\overline{BC}$, but $\overline{AB}$ is not parallel to $\overline{CD}$.

B $\overline{AB}$ is parallel to $\overline{CD}$, but $\overline{AD}$ is not parallel to $\overline{BC}$.

C $\overline{AB}$ is parallel to $\overline{CD}$, and $\overline{AD}$ is parallel to $\overline{BC}$.

D $\overline{AD}$ is not parallel to $\overline{BC}$, and $\overline{AB}$ is not parallel to $\overline{CD}$.

Question 10.

Two motorcycles start at the same point. One motorcycle travels 15 km due north and stops. The second motorcycle travels 32 km due west and stops. Which value is closest to the distance between the motorcycles when they stop?

F 28.3 km

G 47.0 km

H 35.3 km

J 21.9 km

Bonus

An archaeological team is excavating artifacts from a sunken merchant vessel on the ocean floor. To help with the exploration, the team uses a robotic probe. The probe travels approximately 3,900 meters at an angle of depression of 67.4 degrees from the team's ship on the ocean surface down to the sunken vessel on the ocean floor. The figure shows a representation of the team's ship and the probe.
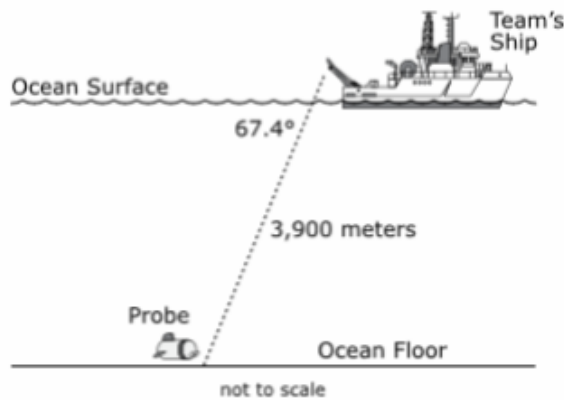
Select from the drop-down menus to correctly complete the sentence.

When the probe reaches the ocean floor, the probe will be approximately

Choose...
1,247
1,500
1,623
3,377
3,600

meters below the ocean surface. When the probe reaches the ocean floor, the horizontal distance of the probe behind the team's ship on the ocean surface will be approximately

Choose...
1,247
1,500
1,623
3,377
3,600

meters.

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