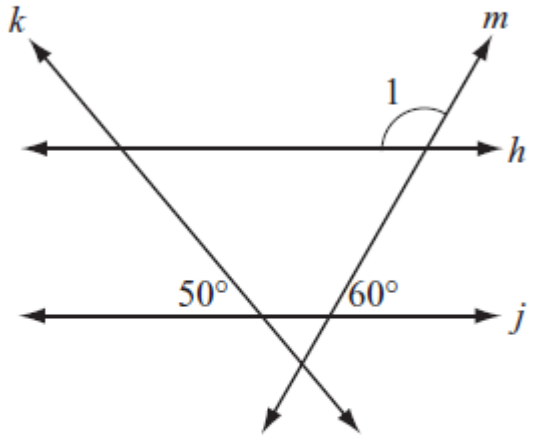
Geometry
Daily Quiz
01022020

Question 1.

In the diagram below, lines h and j are parallel. Line k and line m intersect lines h and j.

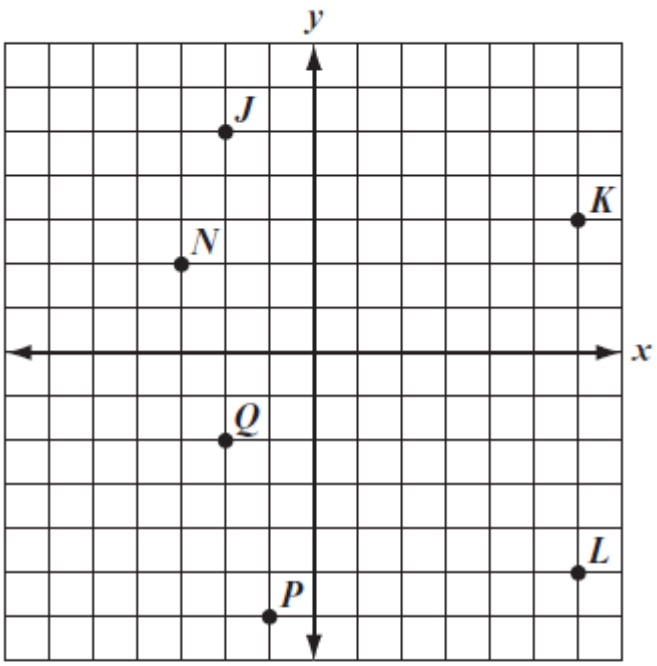


Based on the angle measures in the diagram, what is $m\angle 1$?

A. 50°
B. 60°
C. 120°
D. 130°

Question 2.

Six points are plotted on the coordinate grid below.



Which two points lie on a line with a slope closest to zero?

A. N and J

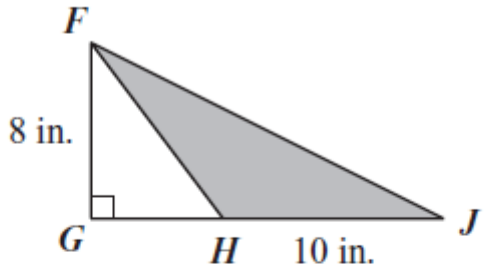
B. N and K

C. P and L

D. P and Q

Question 3.

Abby drew $\triangle FGJ$ and $\overline{FH}$, as shown in the diagram below.



The figure in the diagram has the following properties:

- Point H lies on $\overline{GJ}$.
- The length of $\overline{FG}$ is 8 inches.
- The length of $\overline{HJ}$ is 10 inches.

What is the area of the shaded triangle, $\triangle FHJ$?

A. 80 sq. in.

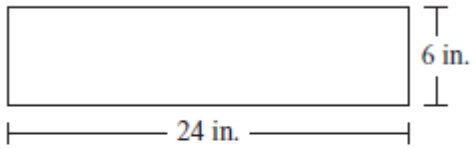
B. 64 sq. in.

C. 48 sq. in.

D. 40 sq. in.

Question 4.

The diagram below shows a rectangle and its dimensions.



A square has the same area as the rectangle. What is the length of each side of the square?

A. 12 in.

B. 15 in.

C. 30 in.

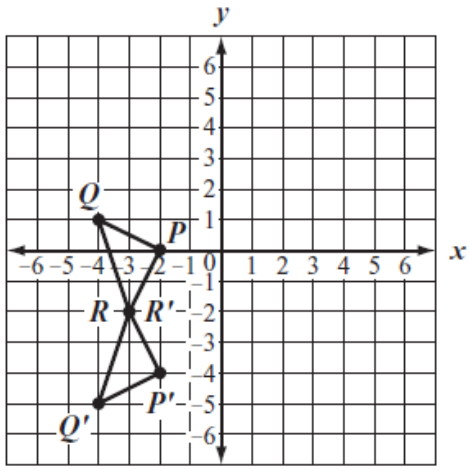
D. 36 in.

Question 5.

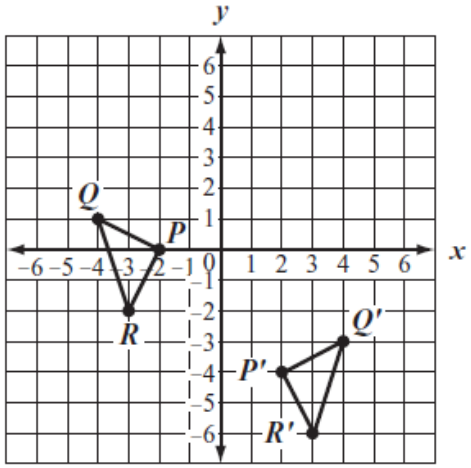
On a coordinate grid, triangle PQR is translated 4 units up and then reflected over the y-axis to form triangle $P'Q'R'$.

Which diagram could show triangle PQR, and the location of triangle $P'Q'R'$ after the transformations?

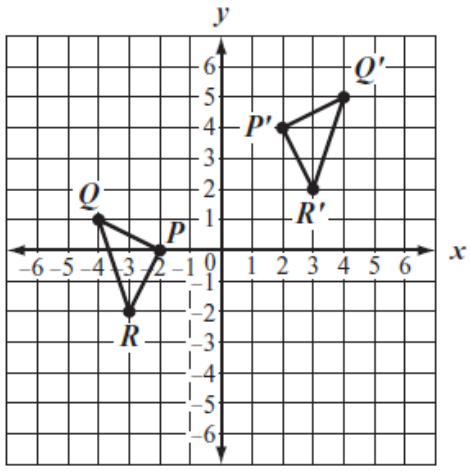
A.



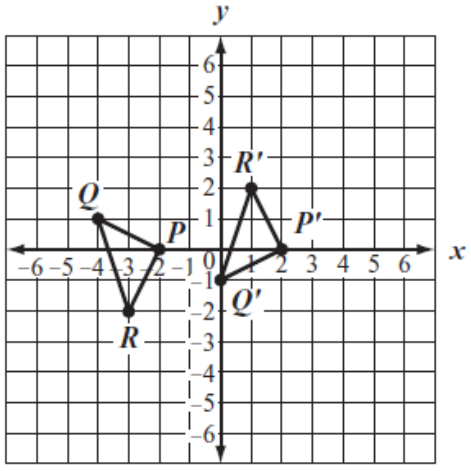
C.



B.

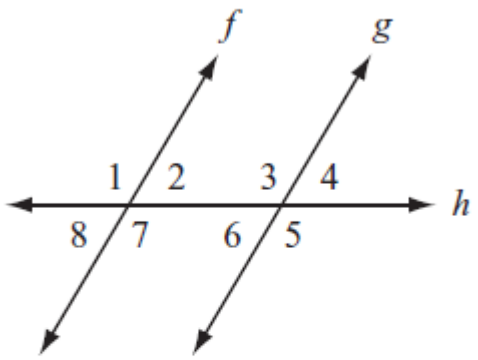


D.



Question 6.

In the diagram below, line h is a transversal of lines f and g.



Which of the following relationships proves that lines f and g are parallel?

A. $\angle 1 \cong \angle 4$

B. $\angle 1 \cong \angle 5$

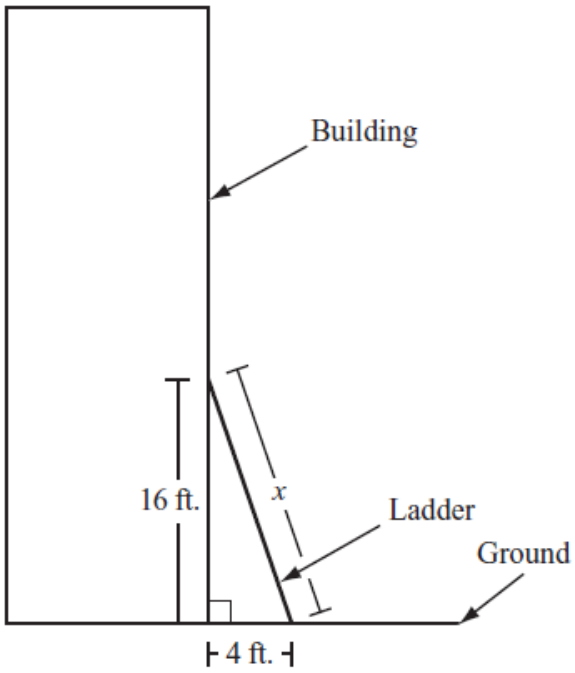
C. $\angle 1 \cong \angle 6$

D. $\angle 1 \cong \angle 7$

Question 7.

You must show your work to get full points here.

A ladder is leaning against the side of an office building, as shown in the diagram below.



The top of the ladder reaches a point on the building that is 16 feet above the ground. The bottom of the ladder is 4 feet from the base of the building.

a. Write an equation that could be used to find x, the length in feet of the ladder.

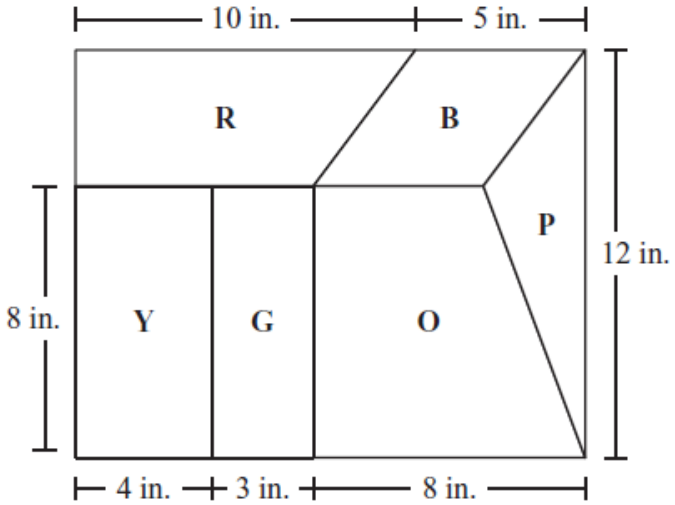
b. Use the equation you wrote in part (a) to find x, the length, to the nearest tenth of a foot, of the ladder. Show or explain how you got your answer.

A second ladder that is 32 feet in length will be leaned against the same building. The bottom of the second ladder will be placed 7 feet from the base of the building.

c. What is the height, to the nearest tenth of a foot, of the point the top of the second ladder will reach on the building? Show or explain how you got your answer.

Question 8.

A puzzle in the shape of a rectangle has six pieces. The puzzle and some of its dimensions are shown in the diagram below.



a. What is the perimeter, in inches, of the puzzle? Show or explain how you got your answer.

The shape of each piece of the puzzle is listed below.

- Pieces **R** and **O** are trapezoids.
- Pieces **Y** and **G** are rectangles.
- Piece **B** is a parallelogram.
- Piece **P** is a triangle.

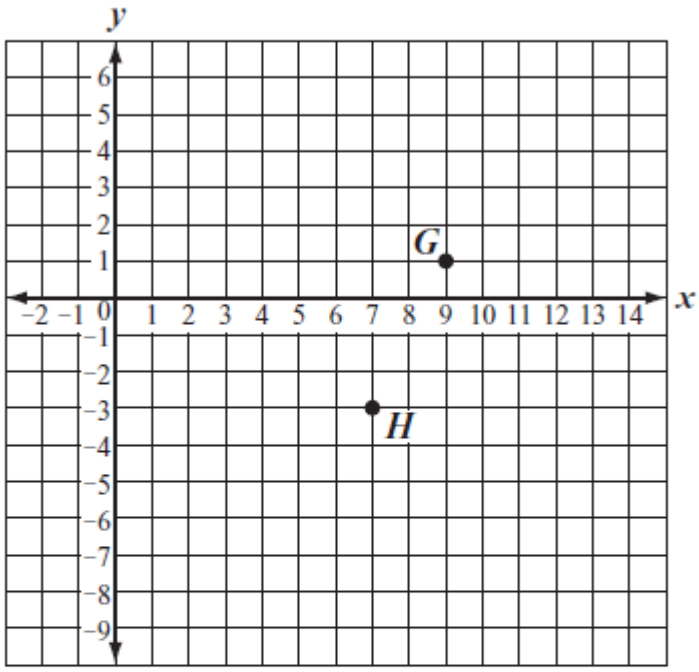
b. What is the area, in square inches, of piece **B**? Show or explain how you got your answer.

c. What is the area, in square inches, of piece **R**? Show or explain how you got your answer.

d. What is the area, in square inches, of piece **P**? Show or explain how you got your answer.

Question 9.

32 A student plotted point $G(9, 1)$ and point $H(7, -3)$ on a coordinate grid, as shown below.



The student will plot point F so that the midpoint of $\overline{GF}$ is point H. What will be the coordinates of point F?

A. $(3, -5)$

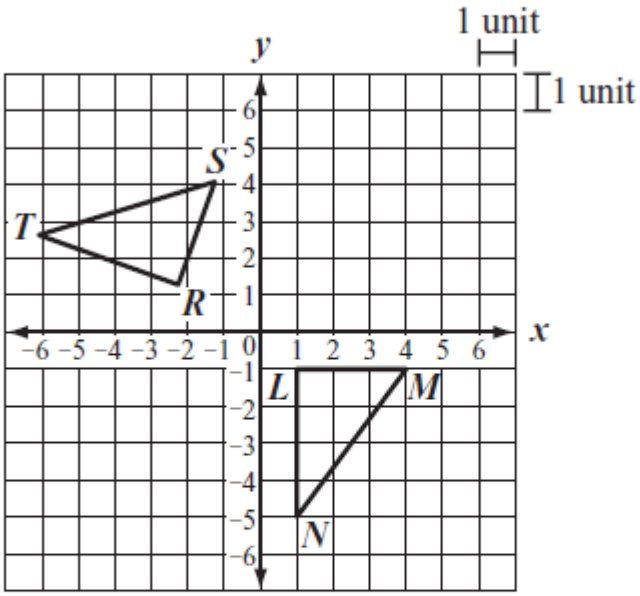
B. $(5, -7)$

C. $(8, -1)$

D. $(11, 5)$

Question 10.

The diagram below shows $\triangle LMN$ and its image, $\triangle RST$, after a series of transformations in the coordinate plane.



What is the length, in units, of $\overline{RT}$?

A. 3

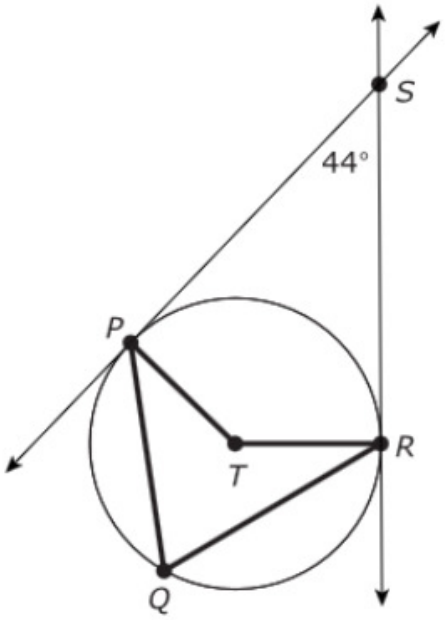
B. 3.5

C. 4

D. 4.5

Bonus.

Circle T is shown. Line PS and line RS are tangent to circle T.



Part A

What is the measure, in degrees, of $\angle PTR$?

Enter your answer in the box.

Part B

What is the measure, in degrees, of $\angle PQR$?

Enter your answer in the box.

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	$C = \pi d \text{ or } C = 2\pi r$
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