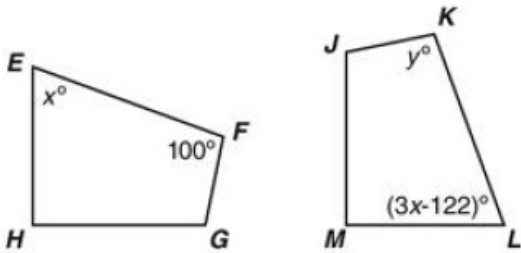# Geometry Final Review 2013-2014

Question 1.

In the diagram, EFGH ~ LKJM.

What is the value of x and y?

Question 2.

Find the value of the nth term in the sequence below.

| n	1	2	3	4	5	6	. . .	n	. . .	50
$h(n)$	6.5	7	7.5	8	8.5	9	. . .		. . .	

A. n = 6n + .5 ; 300.5

B. n = 5n + 6.5 ; 31.5

C. 5n + 6 ; 256

D. .5n + 6 ; 31

Question 3.

Find the sum of the measures of the exterior angles of a convex 65-gon.
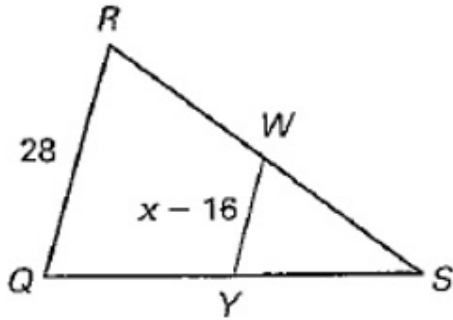

Question 4.

To prevent wind damage, a wire cable must be tied to a hook that is on the top of a telephone pole. The peg holding the cable into the ground is 25 feet away from the base of the pole. The angle of elevation from the peg to the hook on the pole is 58°.
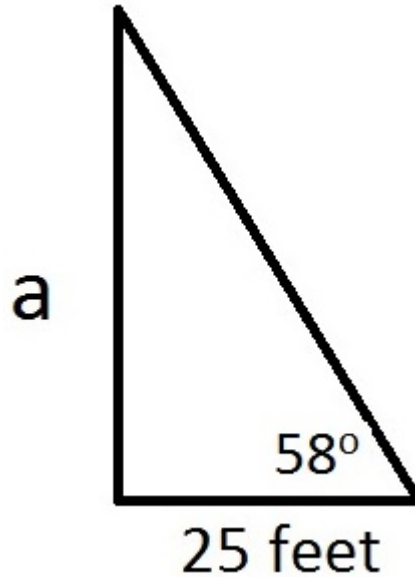
A. What is the height of the telephone pole? Round to the nearest tenth.

B. What is the length of the wire cable? Round to the nearest tenth.

C. If the base of the wire cable is moved 9 feet closer to the pole, what is the new height of the pole? Round to the nearest tenth.

Question 5.

WY is the midsegment of Δ QRS. Find the value of x.

Question 6.

Determine if the lines are parallel, perpendicular, or neither. Please explain.

$$y = 2x - 6$$

$$y = \frac{1}{2}x + 1$$

Question 7.

Determine if the lines are parallel, perpendicular, or neither. Please explain.
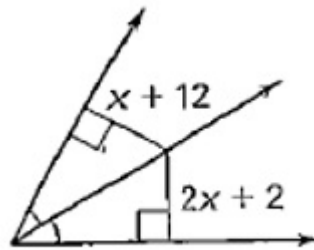
$$y = 3x + 4$$

$$y = 3x - 5$$

Question 8.

Determine if the lines are parallel, perpendicular, or neither. Please explain.

$$y = 6x + 2$$

$$y = 8x - 4$$

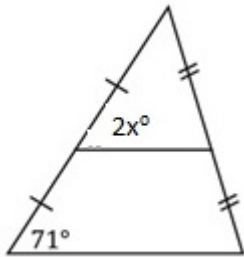## Question 9.

Use the information in the diagram to find x.

Question 10.

Which word describes lines that form right angles when they intersect?

A. perpendicular

B. vertical
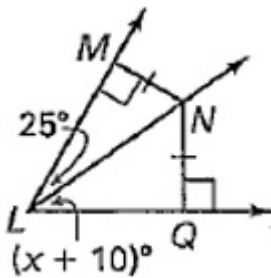
C. parallel

D. acute

Question 11.

The midsegment of each triangle is given. Find the value of x.

Question 12.
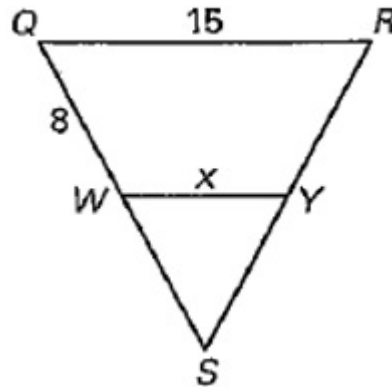
Use the information in the diagram to find x.

Question 13.

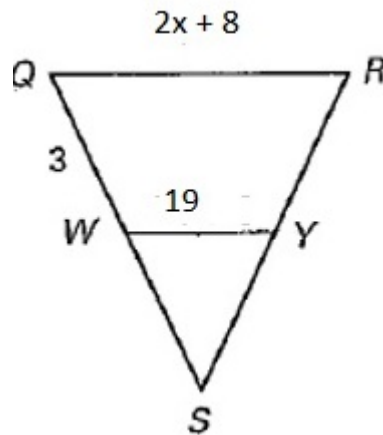Find the sum of the measures of the interior angles of a convex 50-gon.

Question 14.
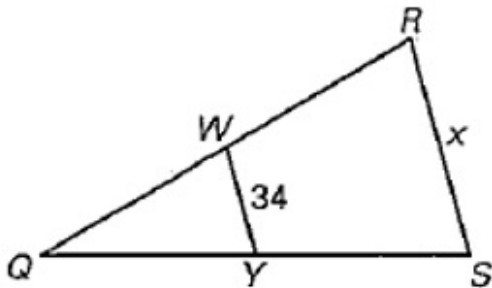
WY is the midsegment of Δ QRS. Find the value of x.

Question 15.
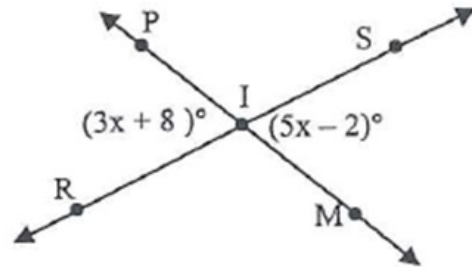
WY is the midsegment of Δ QRS. Find the value of x.

Question 16.

WY is the midsegment of Δ QRS. Find the value of x.
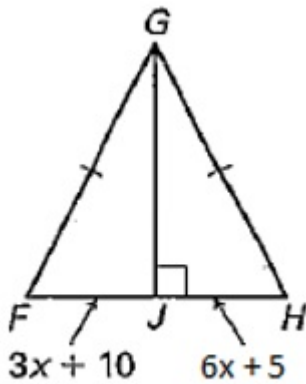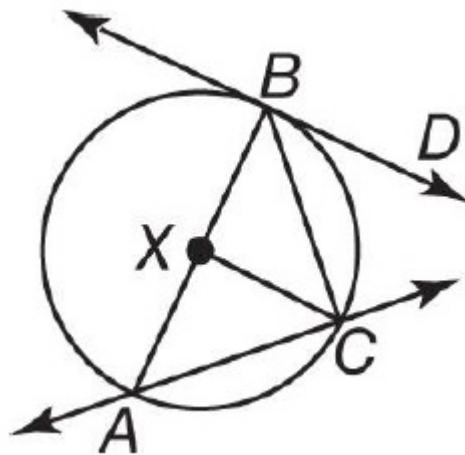

Question 17.

Find the value of x.

Question 18.

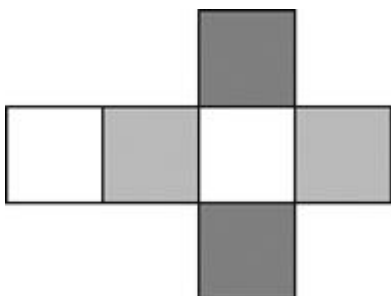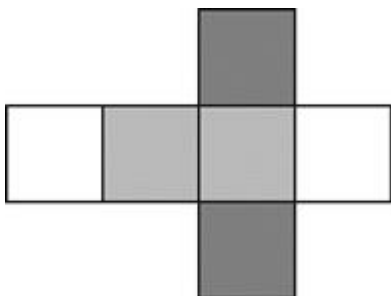Use the Vertical Angles Congruence Theorem to find the measure of each angle in the diagram.
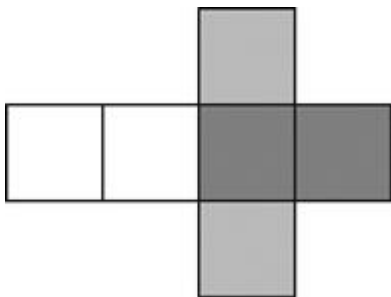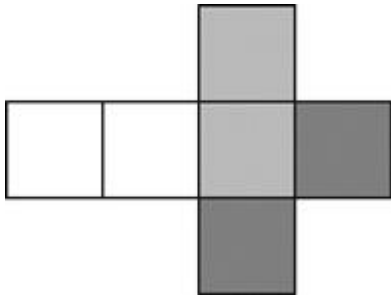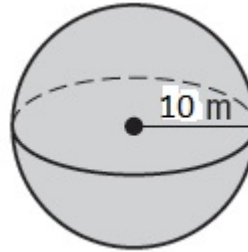

Question 19.

Name a chord.

Question 20.

Which two-dimensional pattern (net) can be folded into a cube, so that parallel faces always have the same color?
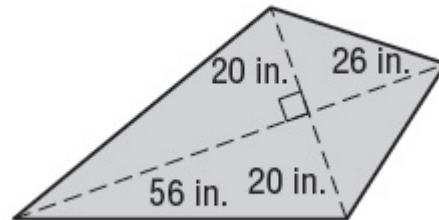
A.

B.

C.

D.

Question 21.

Find the surface area to the nearest tenth if r = 10.

10 m

Question 22.

Find the area.

20 in. 26 in.

56 in. 20 in.

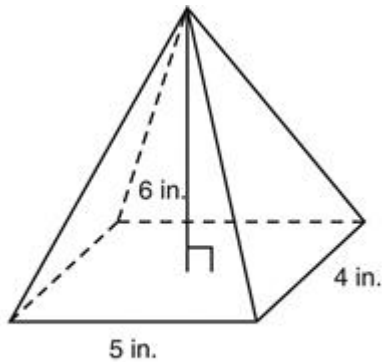## Question 23.

A convex pentagon has interior angles with measures (5x - 12)° , (2x + 100)°, (4x + 16)°, (6x + 15)°, and (3x + 41)°. Find the value of x.

Question 24.

The rectangular pyramid below has a height of 6 inches.

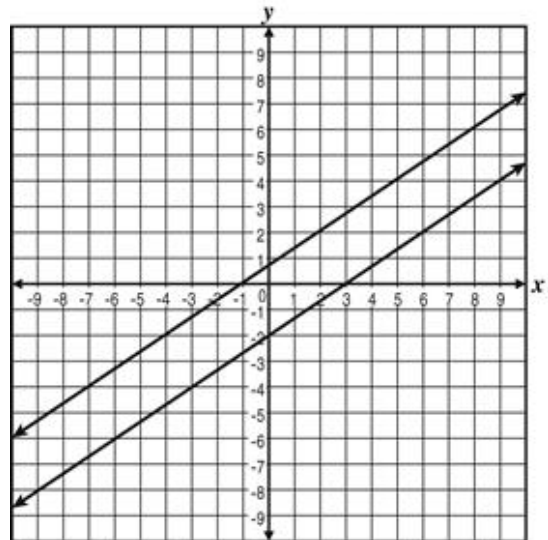Note: The figure is not drawn to scale.

What is the volume of the pyramid?

A. 18 cubic inches

B. 120 cubic inches
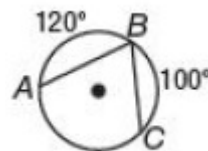
C. 40 cubic inches

D. 360 cubic inches

Question 25.

What do the two lines in the graph below have in common?

A. slope

B. *x*-intercept

C. *y*-intercept

D. equation of the lines

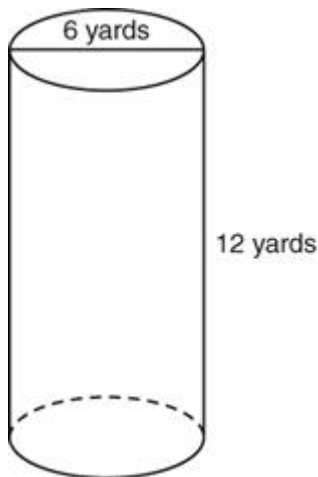**Question 26.**

Find m $\angle$ ABC.

Question 27.

What is the area of a right triangle with vertices of (−2, −4), (2, −4), and (2, 5)?

A. 6 units^2

B. 18 units^2

C. 36 units^2

D. 97 units^2

Question 28.

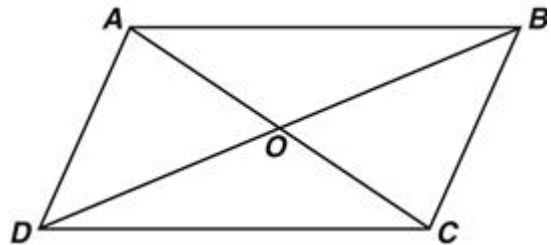Given the following picture, find the following:

A. the volume of the cylinder

B. the surface area of the cylinder

6 yards

12 yards

Round your answers to the nearest tenth.

Question 29.

Pablo has drawn Parallelogram *ABCD* and its diagonals, AC and BD. Using Side-Side-Side, he has proven that △ BAD **is congruent to** △ DCB.
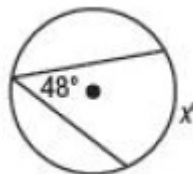
Given this, which result is Pablo now able to prove?

A. △ BOC ≅ △ AOB

B. △ COB ≅ △ AOD

C. ∠COB is an acute angle.

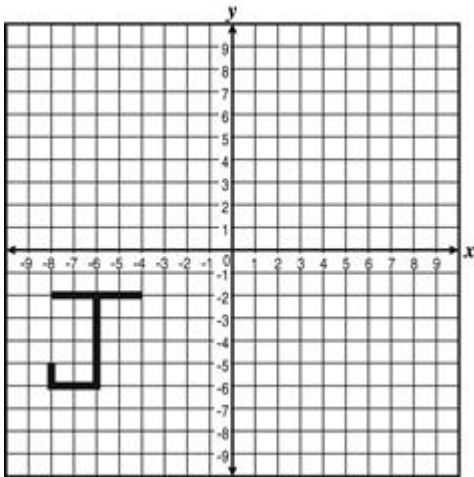D. The area of △ BOC is equal to the area of △ AOB.

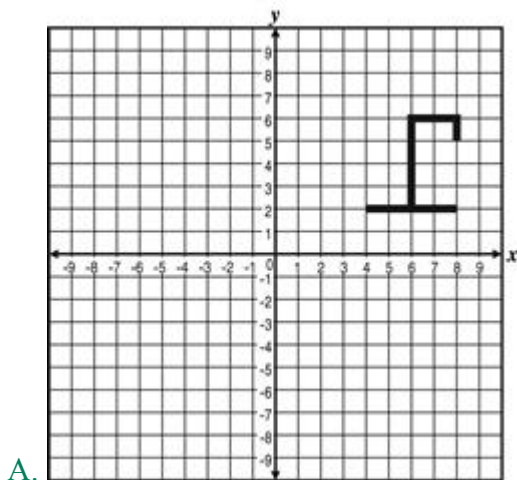**Question 30.**

Find x.

48°

x°

Question 31.

Jamila wrote her initial on a coordinate plane.

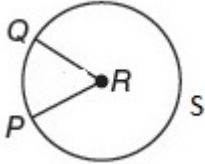Which figure is the image of Jamila's initial after it is rotated 180º clockwise about the origin?
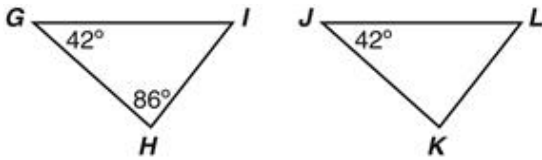
A.

B.

C.

D.

Question 32.

Circle R is given with a diameter of 15 meters. The measure of arc PSQ is 320°.

A. Find the radius of circle R.

B. What is the measure of arc PQ?

C. What is the arc length of PQ?

Question 33.

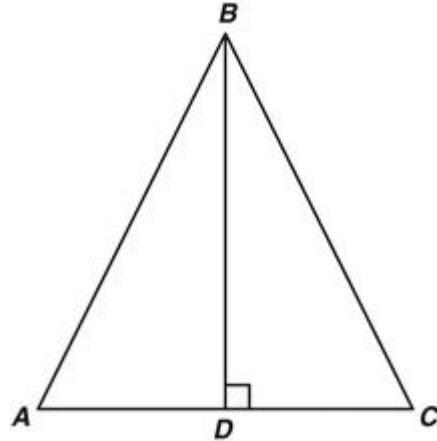**Triangle *GHI* is congruent to Triangle *JKL*.**

What is the measure of Angle *L*?

A. 44°

B. 52°

C. 128°

D. 232°

Question 34.

Triangle *ABC* with right angle *BDC* is shown below.

Which additional fact is needed to prove △ ABD ≅ △ CBD by Side-Angle-Side (SAS)?

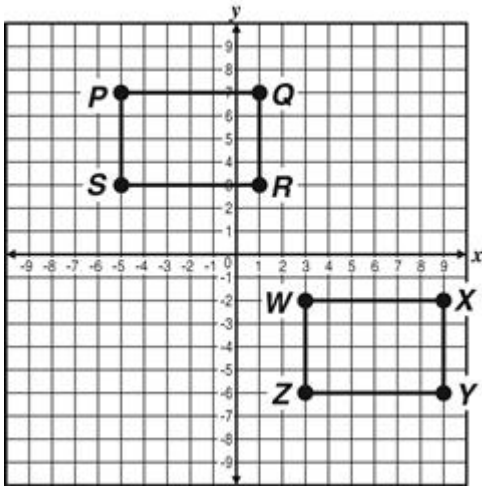A. $\overline{AD} \cong \overline{CD}$

B. $\overline{AB} \cong \overline{CB}$

C. ∠BAD ≅ ∠BCD

D. ∠ABD ≅ ∠CBD

Question 35.

The diameter of a circular swimming pool is 20 feet. Find the circumference to the nearest hundreth.

Question 36.

How is the translation from Rectangle *PQRS* to Rectangle *WXYZ* described?

A. 8 units right, 5 units down

B. 2 units right, 5 units down

C. 8 units right, 9 units down

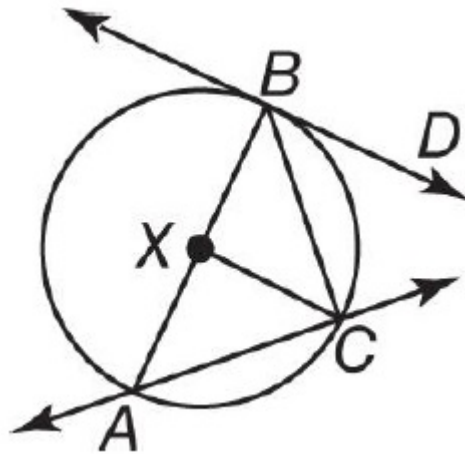D. 2 units right, 9 units down

Question 37.

An angle is a geometric figure that consists of

A. two intersecting lines.

B. a number between 0 and 360.

C. two rays with a common endpoint.
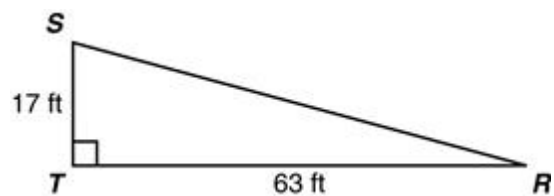
D. two distinct points and all the points between them.

Question 38.

Name a tangent.

Question 39.

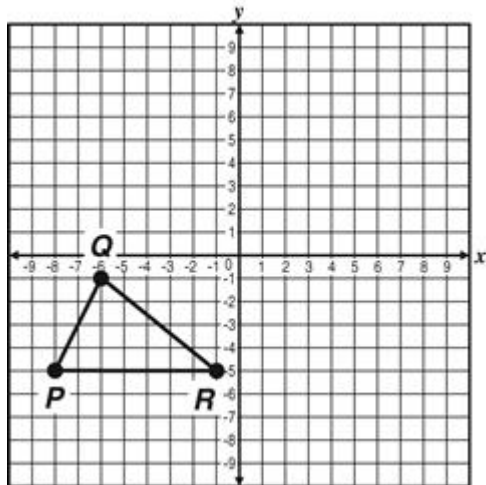**Right triangle *RST* is shown below with the dimensions given in feet (ft).**

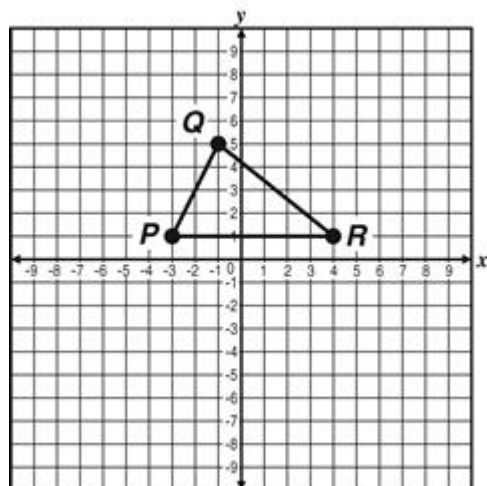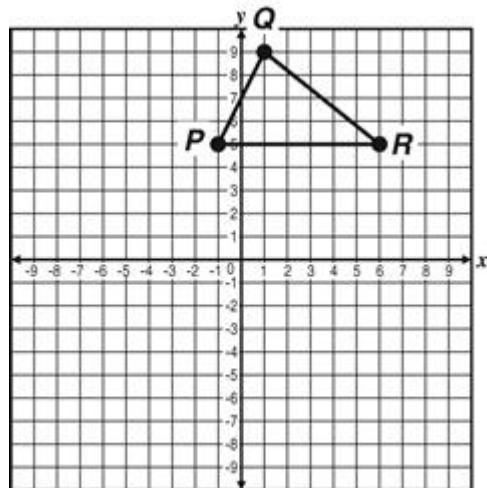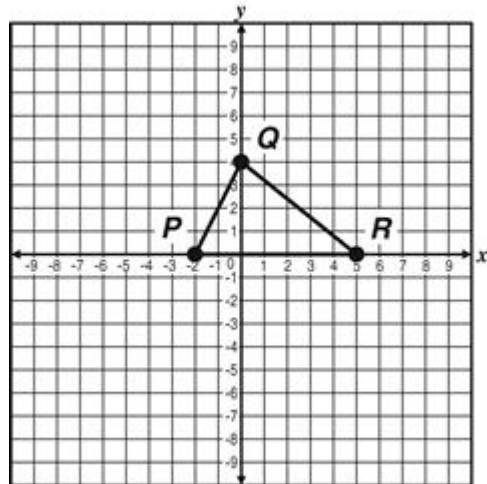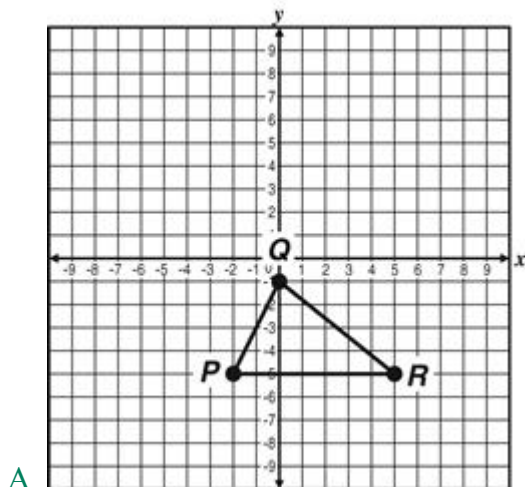**Which is closest to the measure of ∠R?**

A. 15.1°

B. 15.7°

C. 74.3°

D. 74.9°

Question 40.

△ PQR **is shown below.**

What will be the new position of △ PQR after it is translated 6 units right and 5 units up?

A.

B.

C.

D.

Question 41.

Use the following information to find the value of x and y.

120°

x + 22

3x + 2

y°
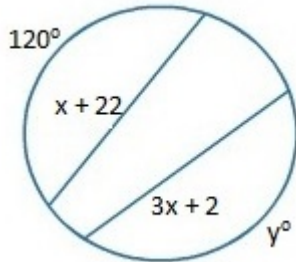
Question 42.

Find the exact circumference of the circle below.

32
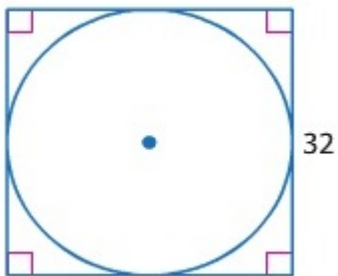
Question 43.

For kite WXYZ, find the measure of ∠ W.

W

Z ⟨ 130°   18° ⟩ X

Y
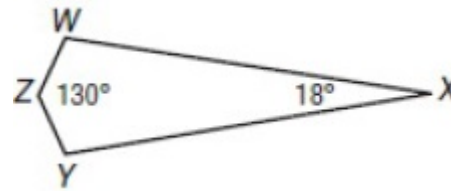
Question 44.

Find the value of x, given segments AB and AC are tangents to the circle.

B

20x + 5

A

15x + 25

C
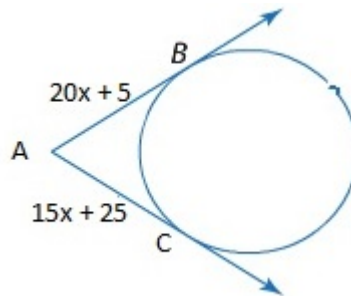
Question 45.

Name a radius.

[   ]
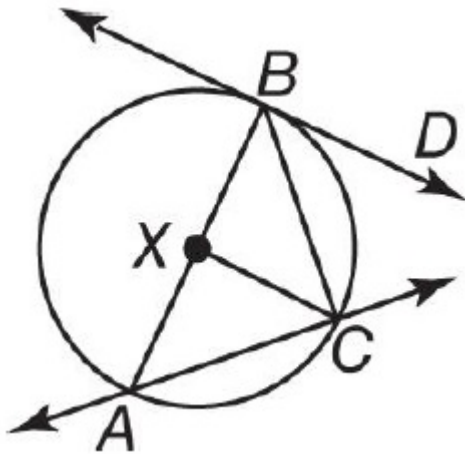
Question 46.

Which of the following is the definition of the sine ratio in a right triangle?

A. $\dfrac{\text{opposite leg}}{\text{hypotenuse}}$

B. $\dfrac{\text{opposite leg}}{\text{adjacent leg}}$

C. $\dfrac{\text{adjacent leg}}{\text{hypotenuse}}$

D. $\dfrac{\text{adjacent leg}}{\text{opposite leg}}$

Question 47.

In a right triangle, which of the following is the definition of the cosine ratio?

A. $\dfrac{\text{opposite leg}}{\text{hypotenuse}}$

B. $\dfrac{\text{opposite leg}}{\text{adjacent leg}}$

C. $\dfrac{\text{adjacent leg}}{\text{hypotenuse}}$

D. $\dfrac{\text{adjacent leg}}{\text{opposite leg}}$

Question 48.

A 24 foot ladder leans against the wall of a building. The foot of the ladder is 5 feet from the base of the wall. How many feet above the ground is the point where the ladder touches the wall?

A. 4.8

B. 6.1

C. 23.5

D. 24.1

Question 49.

A guide wire for a palm tree makes a 32° angle with the ground and is staked 6 feet from the base of the tree, as shown below.
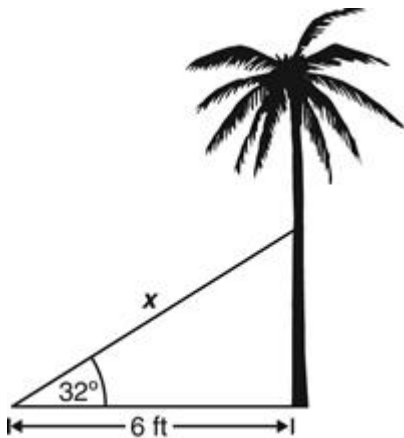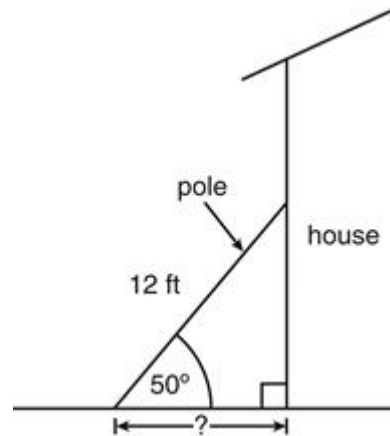

What is the length, to the nearest tenth of a foot, of the guide wire from the ground to the palm tree?

A. 7.1 feet

B. 8.5 feet

C. 9.6 feet

D. 11.3 feet

Question 50.

A 12-foot metal pole is leaning against a house, as shown below.
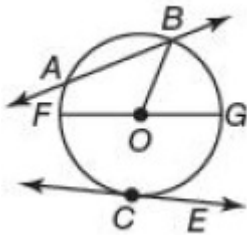

The pole forms a 50° angle with the ground. How many feet, to the nearest tenth of a foot, is the base of the pole from the house?

A. 6.0 feet

B. 7.7 feet

C. 8.5 feet

D. 9.2 feet

Question 51.

Name a diameter.

Question 52.

Roy drove his boat from a dock due north for 6 miles. He then turned and drove the boat due west for about 8 miles and dropped anchor. Approximately how many miles from the dock did Roy drop anchor?

A. 2

B. 5.3

C. 10

D. 14

Question 53.

George is building a rectangular gate. He fastens a brace diagonally at the corners to keep the gate sturdy.
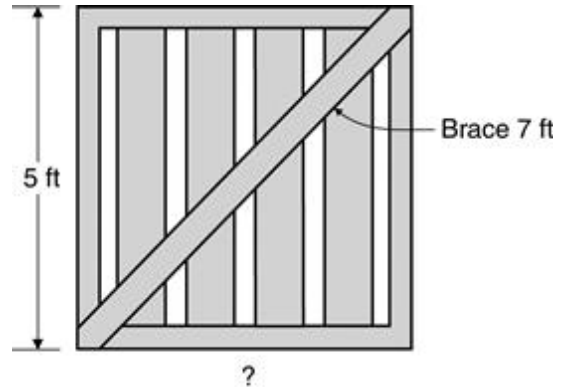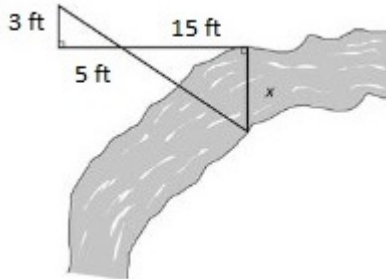

If the brace is 7 feet long and the gate is 5 feet tall, approximately how wide is the gate?

A. 2.0 feet

B. 4.0 feet

C. 4.9 feet

D. 8.6 feet

Question 54.

A section of a stream is shown in the drawing below.


What is x, the distance across the stream, in feet?

Question 55.

A square yard with side length of 100 feet holds a circular swimming pool with a radius of 10 feet.

A. What is the area of the yard?

B. What is the area of the swimming pool?

C. If I want to put down grass seed down in the yard, how much area needs to get covered with the grass seed?
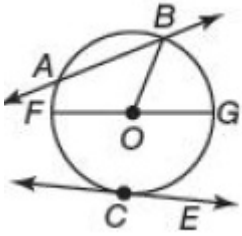
Question 56.

What is the relationship between the slope of line q and the slope of line p?
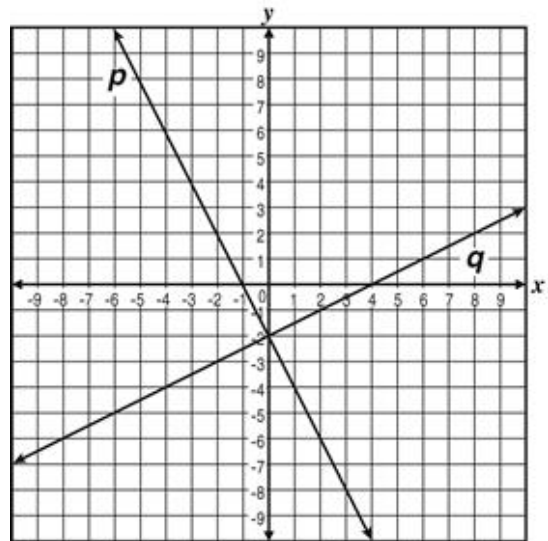
A. The slope of line q is half the slope of line p.

B. The slope of line q is the opposite of the slope of line p.

C. The slope of line q is the reciprocal of the slope of line p.

D. The slope of line q is the opposite reciprocal of the slope of line p.

Question 57.

Name a chord.

A. OF

B. Line AB

C. AB

D. Line CE