

CTB/McGraw-Hill

Semester Exam II Packet

Test ID: 473739

Go to the Next Page

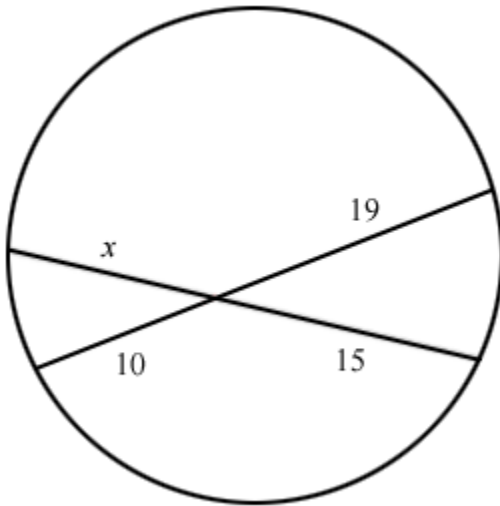
Test Directions

| |
|--------------------------------------|
| General Offline Instructions: |
|--------------------------------------|

| |
|---|
| Today you will take the Acuity test. Read each question carefully and decide which answer is correct. Using your scan sheet, fill in the bubble that contains the letter for the answer you choose. |
|---|

Go to the Next Page

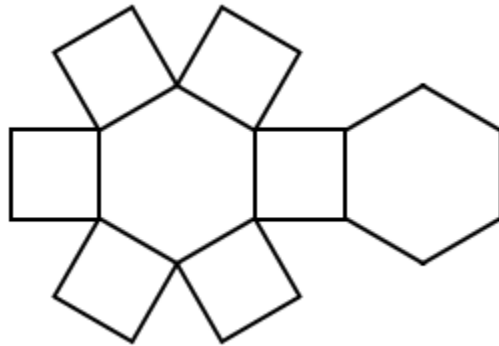
1.



Find x . Round answer to the nearest tenth.

2.

Name the solid that can be formed from the given net.

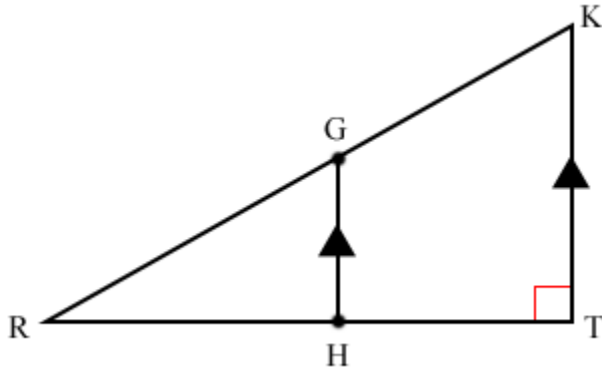


- A cube
- B square pyramid
- C hexagonal pyramid
- D hexagonal prism

Go to the Next Page

3.

In $\triangle RKT$, $\overline{GH} \parallel \overline{KT}$, $RG = 2x - 3$, $GK = 21$, $RH = 28$, and $HT = 28$. Find x and RG .



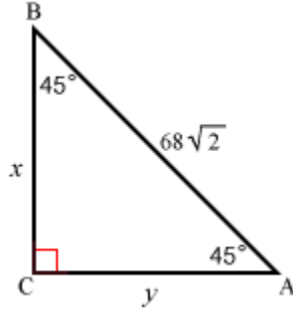
- A $x = 28, RG = 15.5$
- B $x = 12, RG = 21$
- C $x = 21, RG = 12$
- D $x = 15.5, RG = 28$

4.

Find the measure using the given measures from $\triangle ABC$. Round only the final angle measures to the nearest tenth degree and final side measures to the nearest tenth.

$m\angle A = 97$, $m\angle C = 41$, $c = 15$, find a .

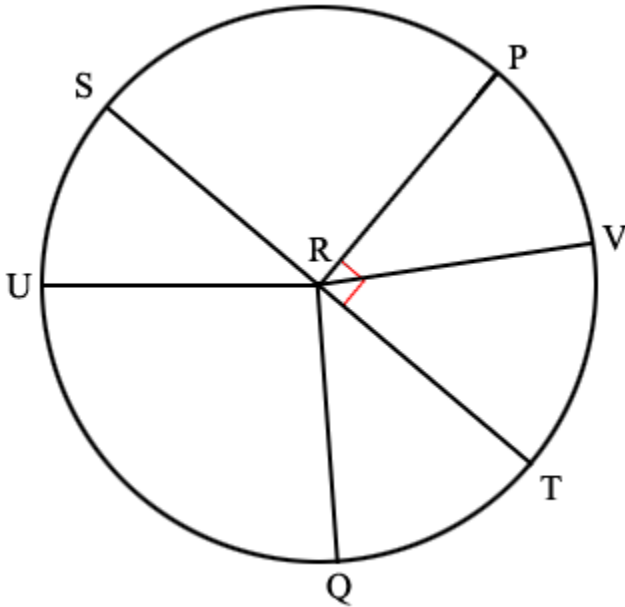
5.



Find y .

- A. 68 B. $68\sqrt{3}$ C. $68\sqrt{2}$ D. 138

6.



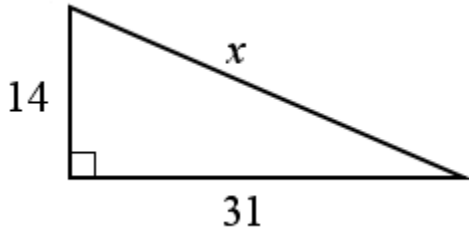
In $\odot R$, $m\angle VRT = 60$, and $m\angle VRT \cong m\angle TRQ$. Find the measure.

$m\widehat{SU}$.

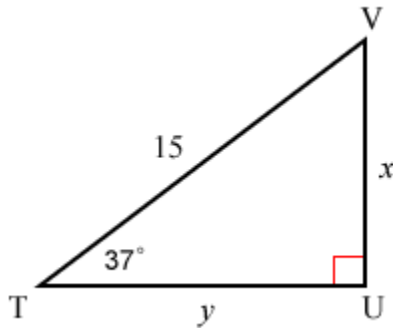
Go to the Next Page

7.

Find x . Round to the nearest tenth if necessary.



8.



Find y . Round to the nearest tenth.

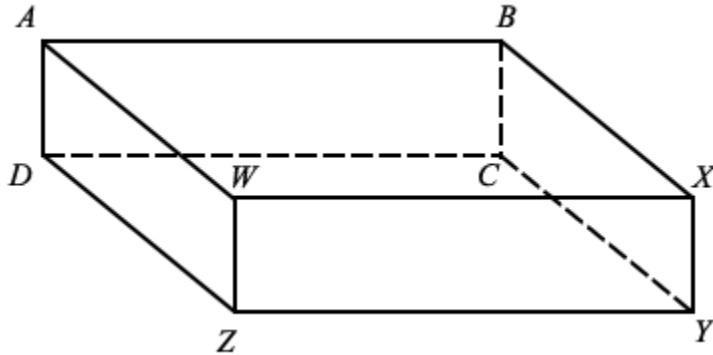
9. Find the area of a circle with a diameter of 42 inches. Round to the nearest tenth if necessary.

- A 4352.5 square inches
- B 131.9 square inches
- C 1385.4 square inches
- D 5541.8 square inches

Go to the Next Page

10.

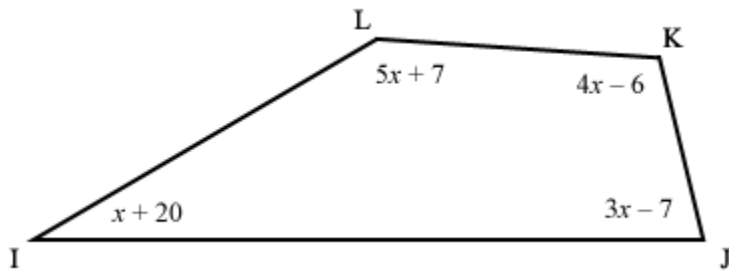
Identify the base or bases of the figure.



- A rectangles $AWZD$ and $ABCD$
- B \overline{DZ} and \overline{CY}
- C rectangles $ABCD$ and $WXYZ$
- D points D, C, Y, Z

11.

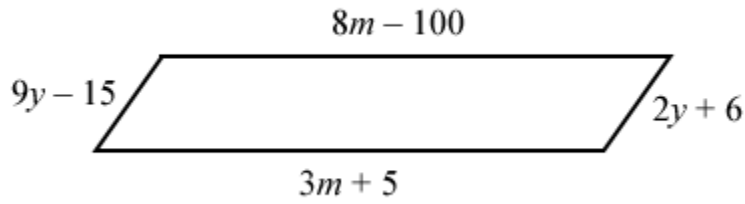
Find the measure of $\angle J$ using the given information.
Round to the nearest tenth if necessary.



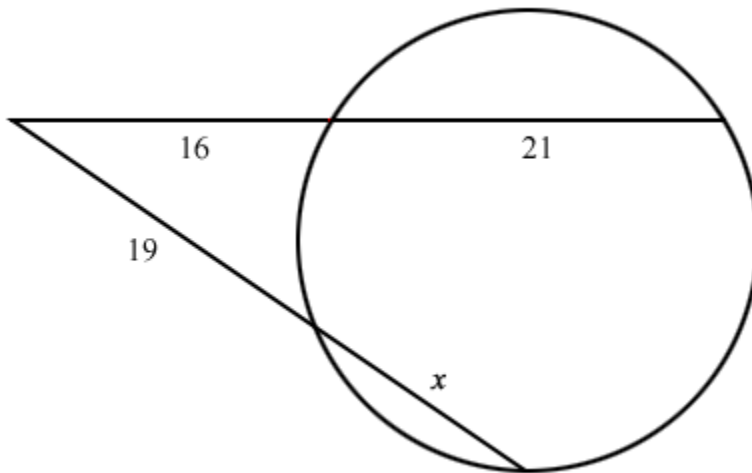
Go to the Next Page

12.

Find m so that the quadrilateral is a parallelogram.



13.



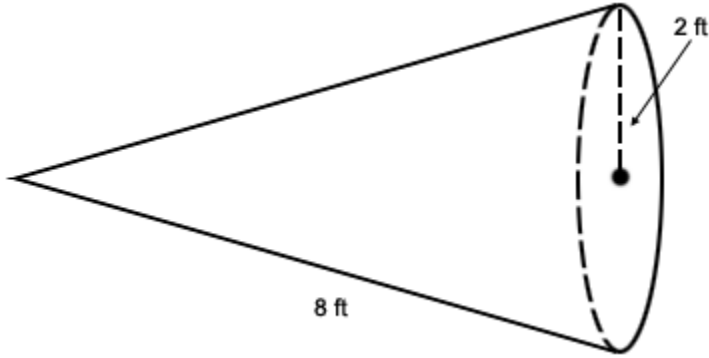
Find x . Round answer to the nearest tenth.

Go to the Next Page

14.

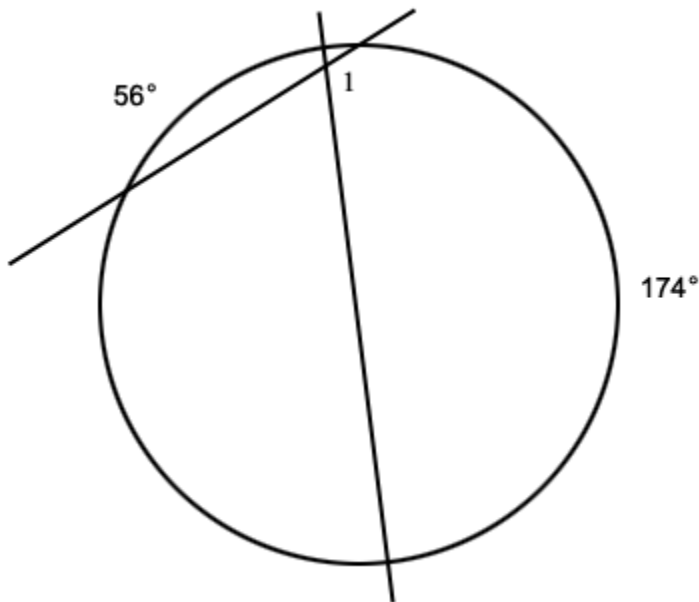
Find the lateral area of the cone.

Use 3.14 for π and round to the nearest tenth if necessary.



- A 23.0 ft²
- B 34.6 ft²
- C 50.2 ft²
- D 94.2 ft²

15.

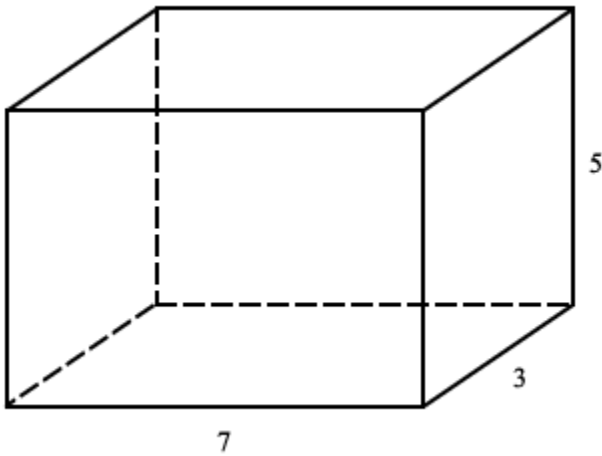


Find $m\angle 1$.

Go to the Next Page

16.

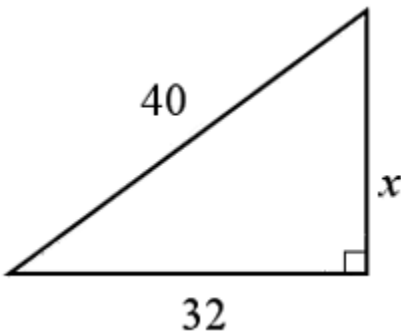
Find the surface area of the prism. Round to the nearest square unit.



- A 142 units²
- B 100 units²
- C 105 units²
- D 71 units²

17.

Find x . Round to the nearest tenth if necessary.

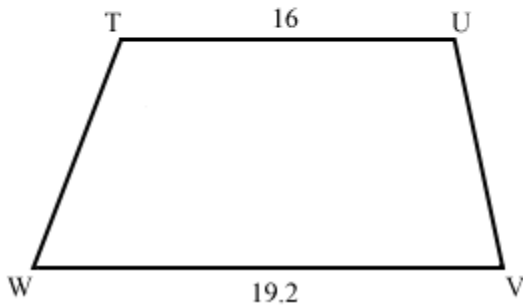
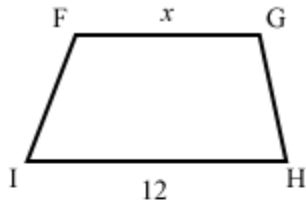


Go to the Next Page

18.

Look at the two similar quadrilaterals.

Find the value of x .



19.

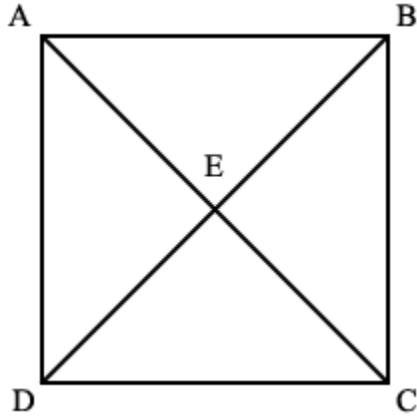
Use scalar multiplication to find the coordinates of the vertices of the figure for a dilation centered at the origin with the given scale factor.

$\triangle PQR$ with vertices $P(-6, 9)$, $Q(-3, 7)$, $R(3, -8)$; $r = 3$

- A $P'(-18, 27)$, $Q'(-9, 21)$, $R'(-9, -24)$
- B $P'(-18, 27)$, $Q'(-9, 21)$, $R'(9, -24)$
- C $P'(18, 27)$, $Q'(-9, 21)$, $R'(9, -24)$
- D $P'(-18, 27)$, $Q'(9, 21)$, $R'(9, -24)$

Go to the Next Page

20.



Use rhombus $ABCD$ with $DE = 6x - 11$, $EB = 5x + 1$, and $AE = 15$.

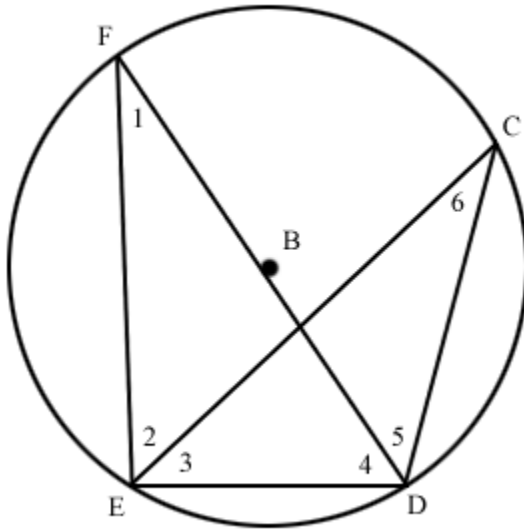
Find EC .

21. Find the area of an equilateral triangle with a side length of 12 yards. Round to the nearest tenth if necessary.

- A 124.7 square yards
- B 151.4 square yards
- C 62.4 square yards
- D 6.9 square yards

Go to the Next Page

22.



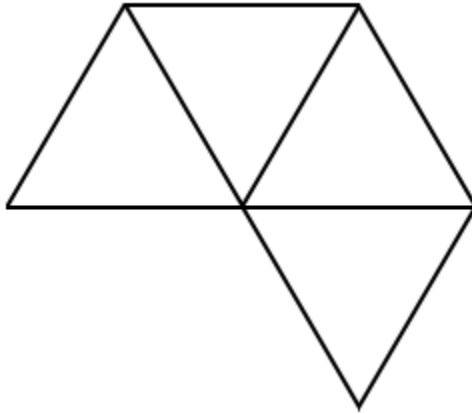
In $\odot B$, $m\widehat{FE} = 112$, $m\angle FEC = 49$, and $m\widehat{ED} = 64$

Find $m\angle 2$

Go to the Next Page

23.

Name the solid that can be formed from the given net.



- A triangular prism
- B rectangular pyramid
- C triangular pyramid
- D rectangular prism

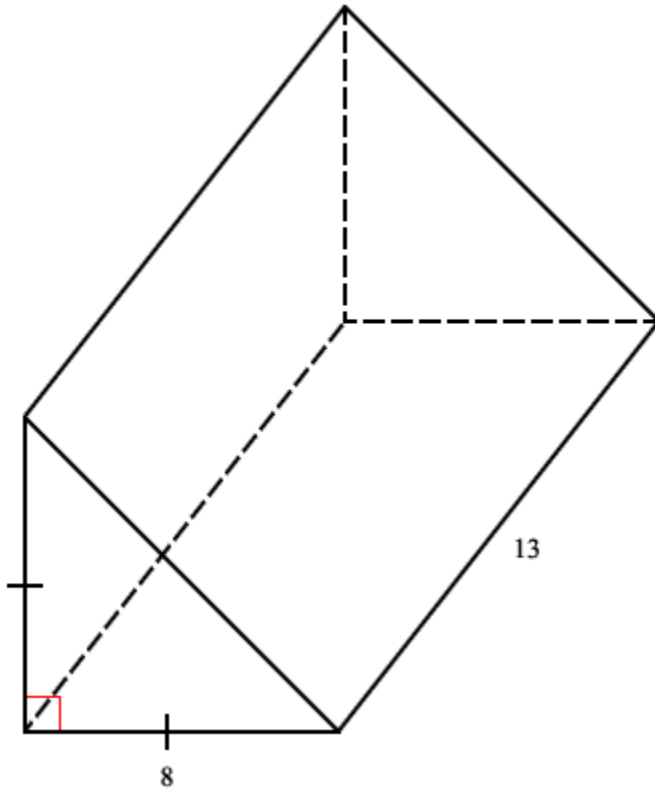
24.

Find the measure of an exterior angle given the number of sides of the regular polygon. Round to the nearest tenth if necessary.

$$n = 12$$

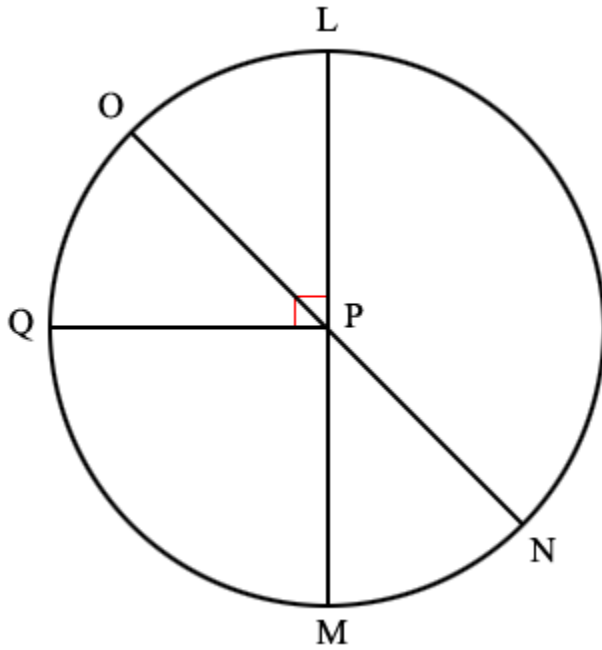
25.

Find the lateral area of the prism. Round to the nearest tenth.



- A 577.3 units²
- B 419 units²
- C 416.1 units²
- D 355.1 units²

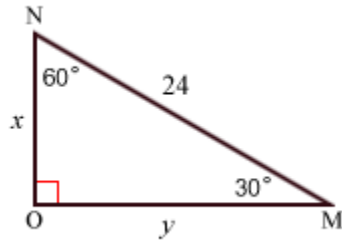
26.



In $\odot P$, $m\angle LPN = 115$. Find the measure.

$m\widehat{NM}$

27.

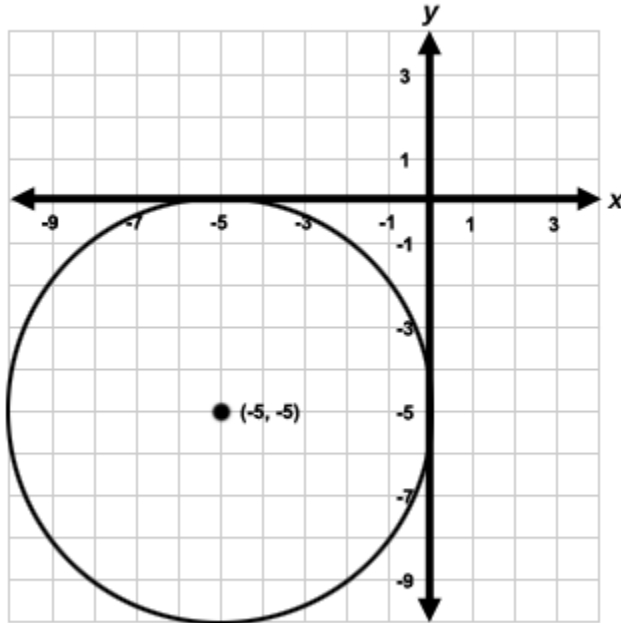


Find y .

- A. $12\sqrt{2}$ B. $12\sqrt{3}$ C. 12 D. $24\sqrt{3}$

Go to the Next Page

28.

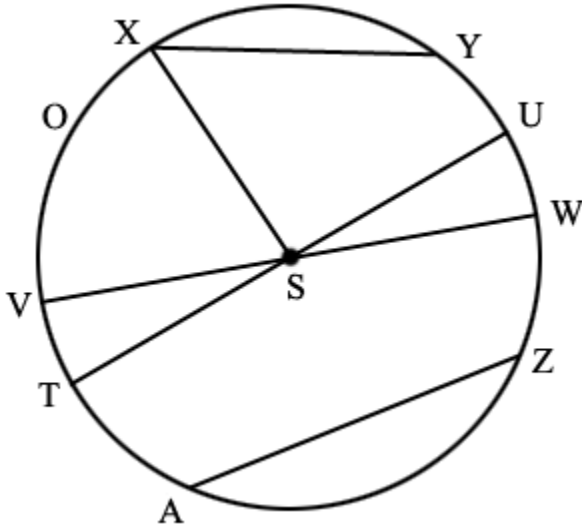


Which is the correct equation for this circle?

- A. $(x + 5)^2 + (y + 5)^2 = 5$ B. $(x + 5)^2 + (y + 5)^2 = 25$
- C. $(x - 5)^2 + (y - 5)^2 = 25$ D. $(x + 5)^2 + (y + 5)^2 = 10$

Go to the Next Page

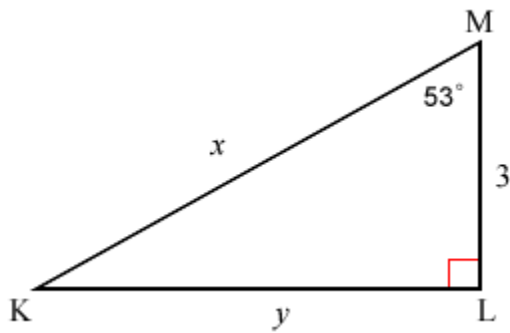
29.



Name a radius.

- A SV
- B AZ
- C YX
- D TU

30.



Find y . Round to the nearest tenth.

Go to the Next Page

31.

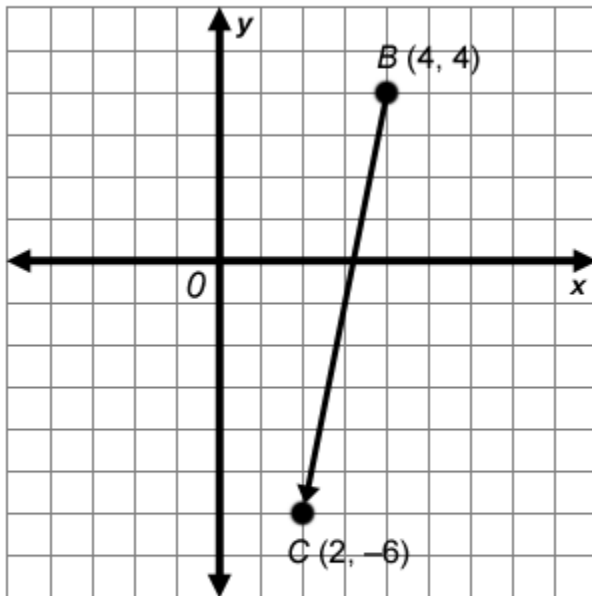
Use a matrix to find the coordinates of the vertices of the image of the figure under the given rotation.

$\triangle JKL$ with vertices $J(-8, -3)$, $K(-3, -3)$, $L(0, 5)$; 90° counterclockwise

- A $J'(-3, 8)$, $K'(-3, 3)$, $L'(5, 0)$
- B $J'(-3, -8)$, $K'(-3, -3)$, $L'(-5, 0)$
- C $J'(3, 8)$, $K'(3, 3)$, $L'(5, 0)$
- D $J'(3, -8)$, $K'(3, -3)$, $L'(-5, 0)$

32.

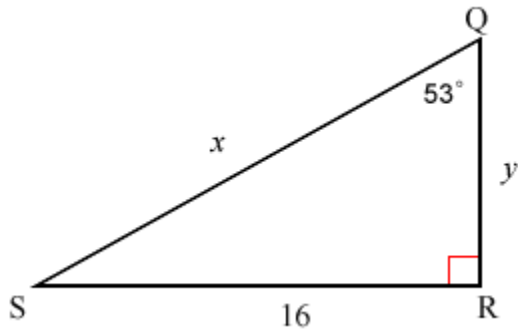
What is the component form of \vec{BC} ?



- A. $\langle 0, 8 \rangle$
- B. $\langle -2, -10 \rangle$
- C. $\langle 2, 10 \rangle$
- D. $\langle 0, -8 \rangle$

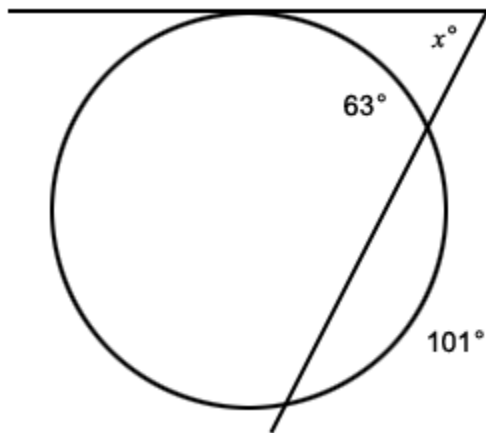
Go to the Next Page

33.



Find y . Round to the nearest tenth.

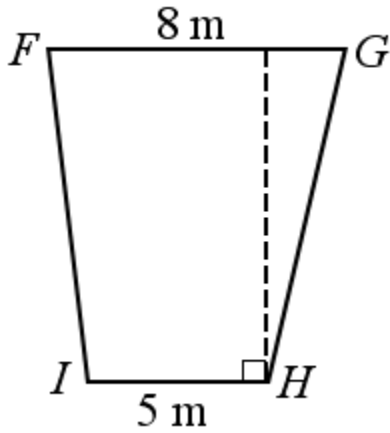
34.



Find x .

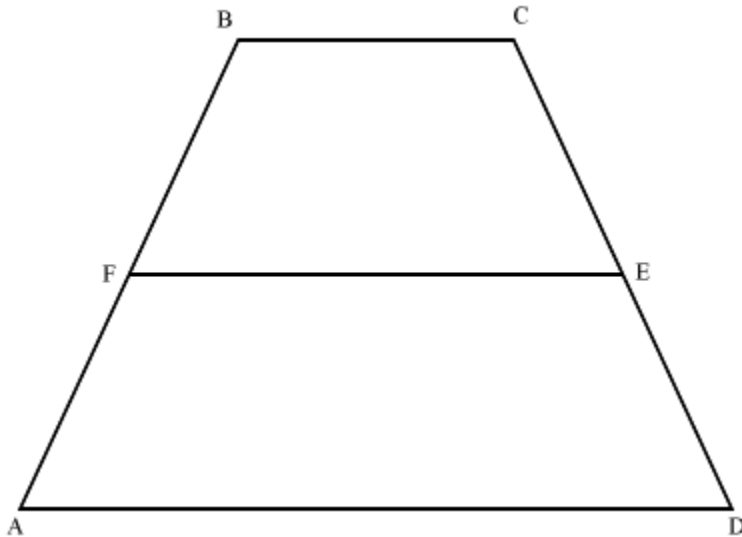
Go to the Next Page

35. Trapezoid $FGHI$ has an area of 58.5 square meters. Find the height of $FGHI$.



_____ meters

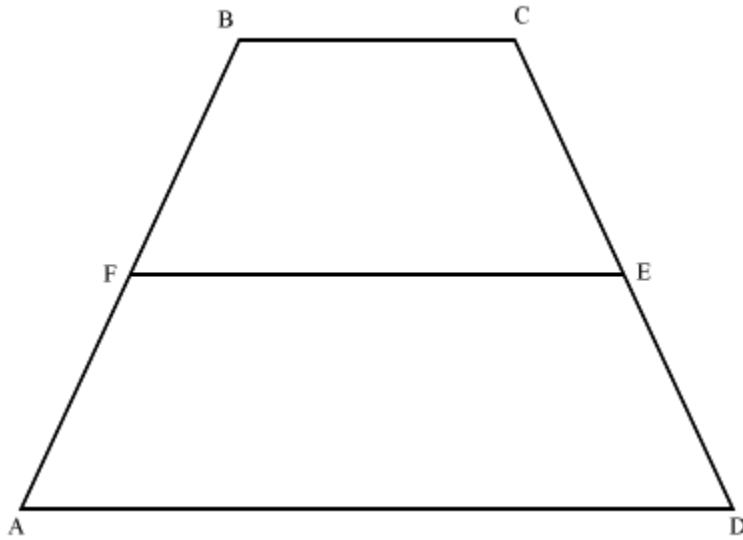
36. Find the missing measure for trapezoid $BCDA$.



Find FE if $BC = 60$ and $AD = 120$.

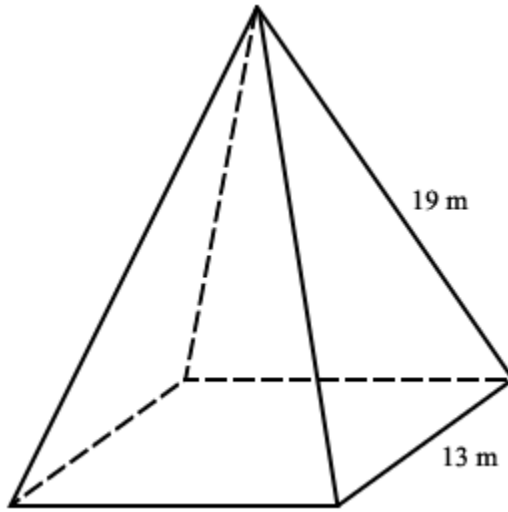
37.

Find the missing measure for trapezoid $BCDA$.



Find $m\angle EFA$ if $m\angle A = 60$.

38. Find the surface area of the square pyramid.
 Round to the nearest tenth if necessary.



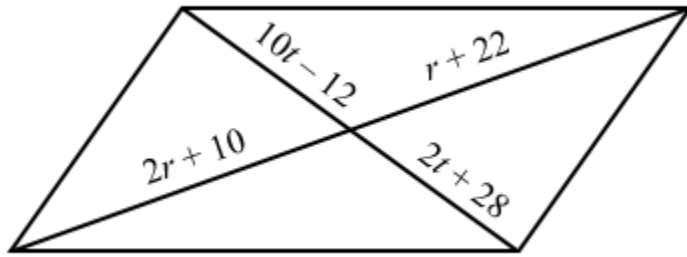
- A 1,266.4 m²
- B 1,097.4 m²
- C 663 m²
- D 633.2 m²

39. In $\triangle DEF$, given the lengths of the sides, find the measure of the stated angle. Round to the nearest tenth.

$d = 50, e = 60, f = 70, \angle F = ?$

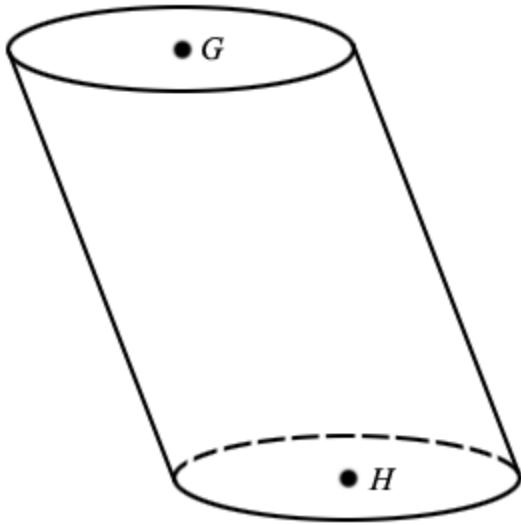
40.

Find t so that the quadrilateral is a parallelogram.



41.

Identify the base or bases of the figure.



5

- A circle G and circle H
- B \overline{GH}
- C point H
- D points G and H

Go to the Next Page

42.

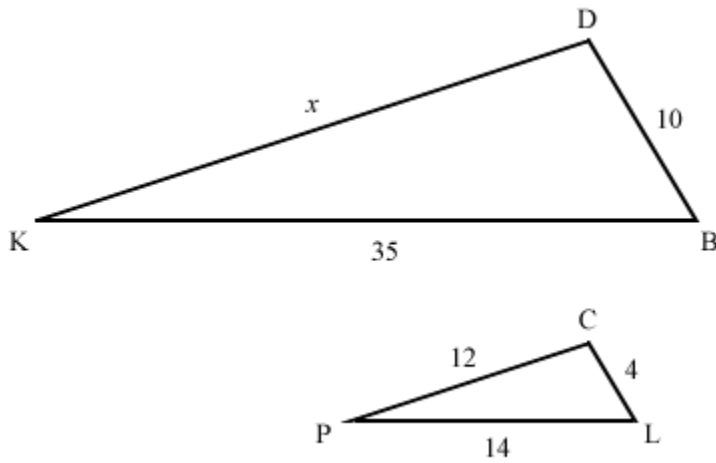
Find the angle of depression of the sun when a 28 feet flagpole casts a 35 feet long shadow. Round your answer to the nearest tenth.

_____ °

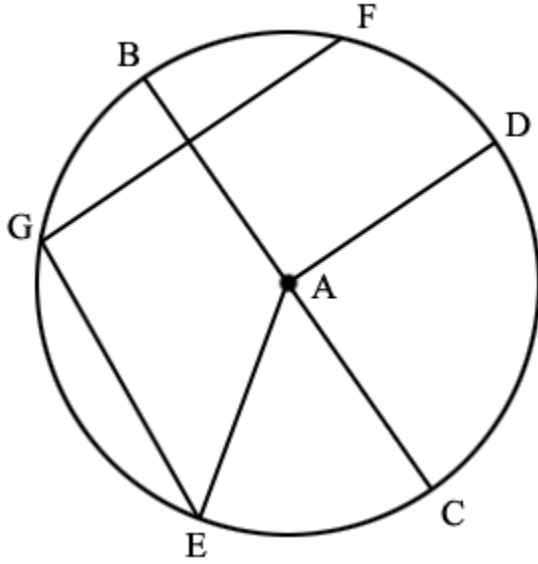
43.

Look at the two similar triangles.

Find the value of x .



44.

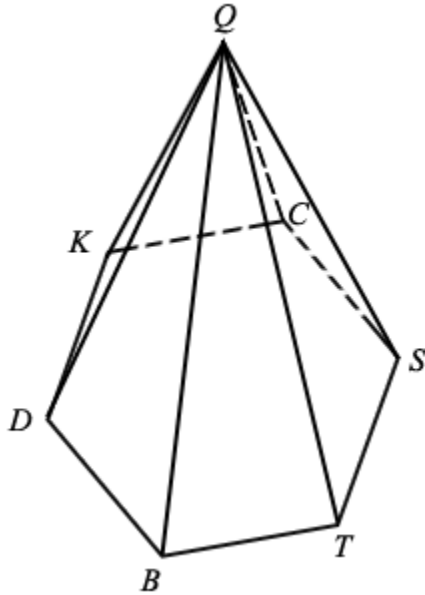


Name a radius not drawn as part of a diameter.

- A AD
- B A
- C BC
- D GE

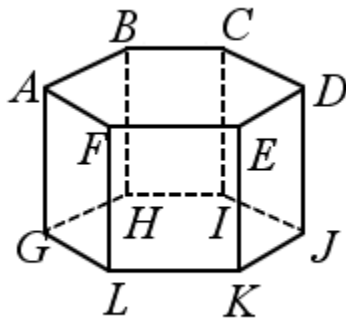
Go to the Next Page

45. Identify the solid.



- A cone
- B hexagonal prism
- C hexagonal pyramid
- D octagonal pyramid

46. Identify the solid.



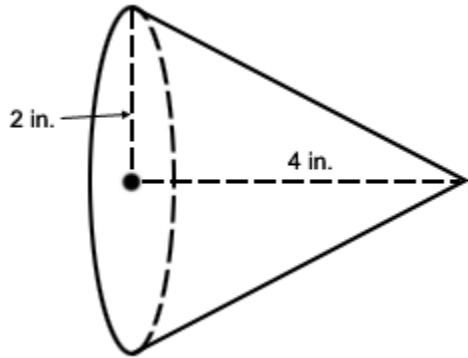
- A hexagonal prism
- B hexagonal pyramid
- C octagonal pyramid
- D octagonal prism

Go to the Next Page

47.

Find the surface area of the cone.

Use 3.14 for π and round to the nearest tenth if necessary.

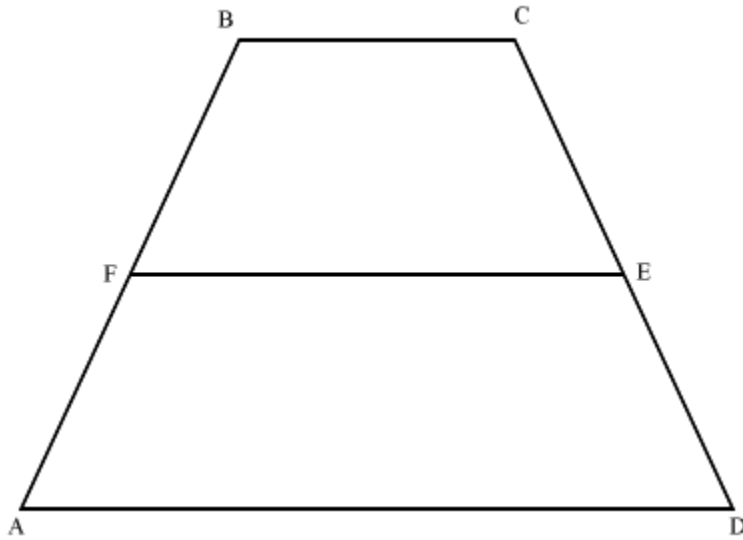


- A 37.7 in.²
- B 68.8 in.²
- C 40.8 in.²
- D 50.3 in.²

Go to the Next Page

48.

Find the missing measure for trapezoid $BCDA$.



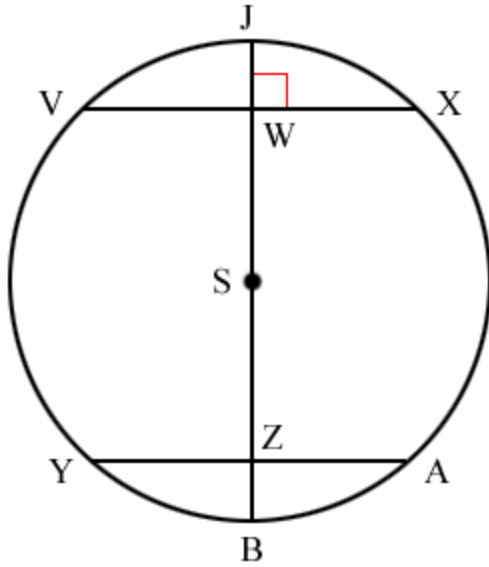
Find AD if $BC = 48$ and $FE = 60$.

49. Find the area of a regular octagon with a perimeter of 24 inches. Round to the nearest tenth if necessary.

- A 11.1 square inches
- B 43.5 square inches
- C 18 square inches
- D 86.9 square inches

Go to the Next Page

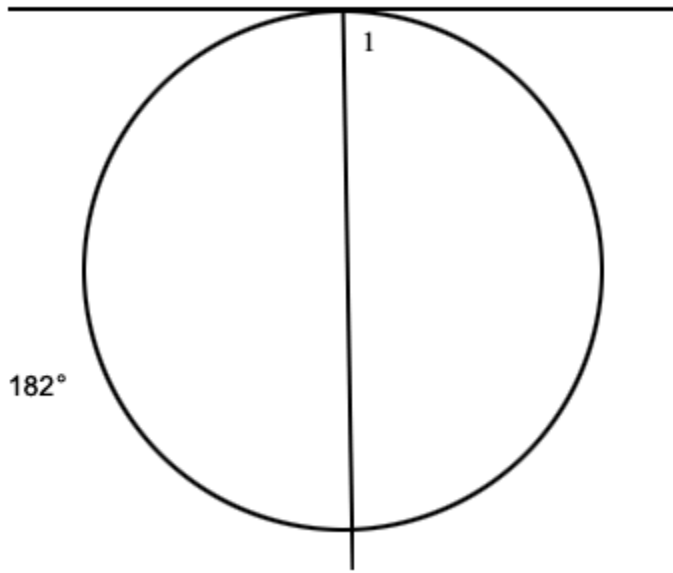
50.



In $\odot S$, $m\widehat{YA} = 60$, $m\widehat{VX} = 60$, $VX = 36$ and $\overline{VX} \cong \overline{YA}$.

Find YA .

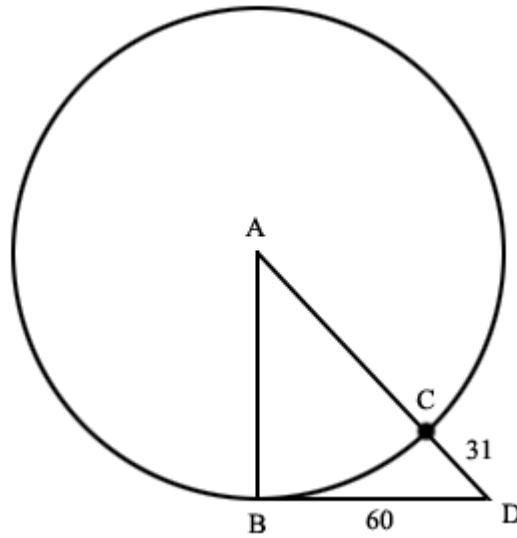
51.



Find $m\angle 1$.

Go to the Next Page

52.



Find the perimeter of the polygon for the given information. Assume that segments that appear to be tangent are tangent. Give answers to the nearest tenth.

$$CD = 31, BD = 60$$

- A 176.2
- B 127.7
- C 133.6
- D 261.3

53.

$\triangle DEF$ has vertices $D(-1, 6)$, $E(3, 6)$, and $F(-2, -7)$. Use a matrix to find the vertices of the image under a reflection in the x -axis.

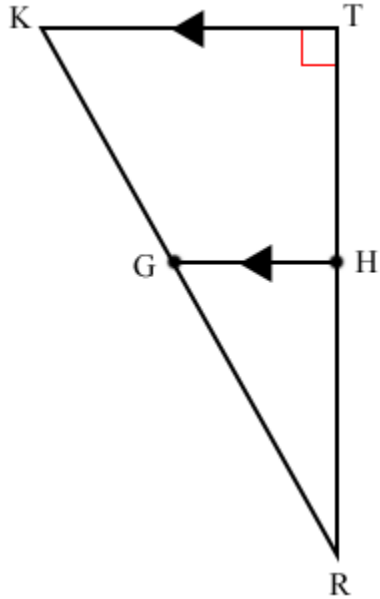
- A $D'(1, 6), E'(-3, 6), F'(2, -7)$
- B $D'(1, -6), E'(-3, -6), F'(2, 7)$
- C $D'(-1, -6), E'(3, -6), F'(-2, 7)$
- D $D'(-1, -6), E'(-3, -6), F'(-2, -7)$

54. Find the geometric mean between 5 and 2. Round to the nearest tenth if necessary.

Go to the Next Page

55.

In $\triangle RKT$, $\overline{GH} \parallel \overline{KT}$, $RG = 21$, $GK = 21$, $RH = 2x + 7$, and $HT = 28$. Find x and RH .

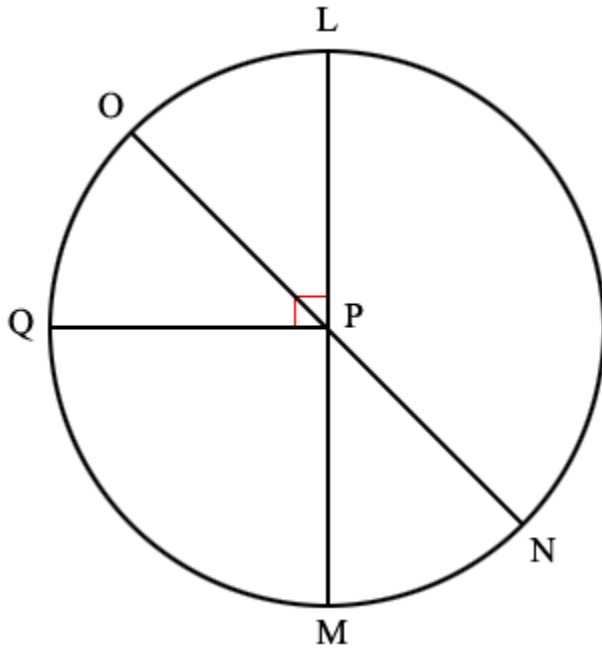


- A $x = 7, RH = 21$
- B $x = 10.5, RH = 28$
- C $x = 21, RH = 7$
- D $x = 28, RH = 10.5$

56. Find the geometric mean between 4 and 81. Round to the nearest tenth if necessary.

Go to the Next Page

57.

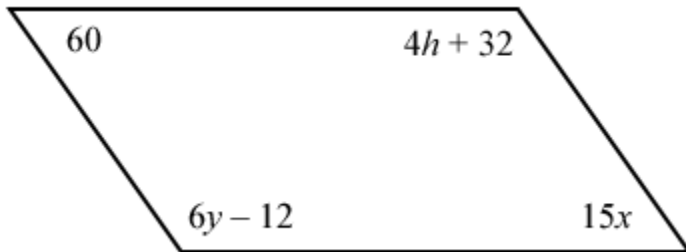


In $\odot P$, $m\angle LPN = 115$. Find the measure.

$m\widehat{OQ}$

58.

Find h so that the quadrilateral is a parallelogram.



Go to the Next Page

59. Quadrilateral $UVWX$ has vertices $U(-8, 2)$, $V(1, 6)$, $W(3, -3)$, and $X(-6, -1)$. Find the vertices of the image under a reflection in the y -axis.

- A $U'(8, 2)$, $V'(1, 6)$, $W'(3, -3)$, $X'(-6, -1)$
- B $U'(-8, 2)$, $V'(1, 6)$, $W'(3, -3)$, $X'(-6, -1)$
- C $U'(-8, 2)$, $V'(1, 6)$, $W'(3, -3)$, $X'(-6, -1)$
- D $U'(-8, 2)$, $V'(1, 6)$, $W'(3, -3)$, $X'(-6, -1)$

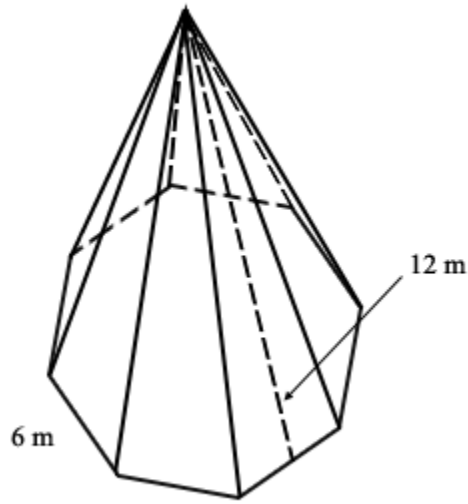
60.

Find the measure of an interior angle given the number of sides of the regular polygon. Round to the nearest tenth if necessary.

$$n = 11$$

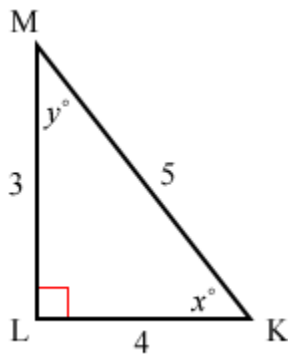
Go to the Next Page

61. Find the surface area of the regular pyramid.
Round to the nearest tenth if necessary.



- A 711.9 m²
- B 563.7 m²
- C 635.7 m²
- D 461.8 m²

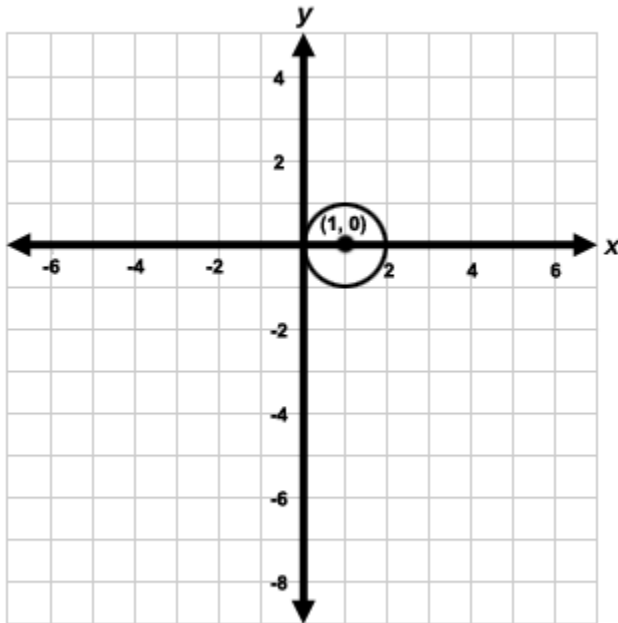
- 62.



Find $m\angle M$. Round to the nearest tenth.

Go to the Next Page

63.



Which is the correct equation for this circle?

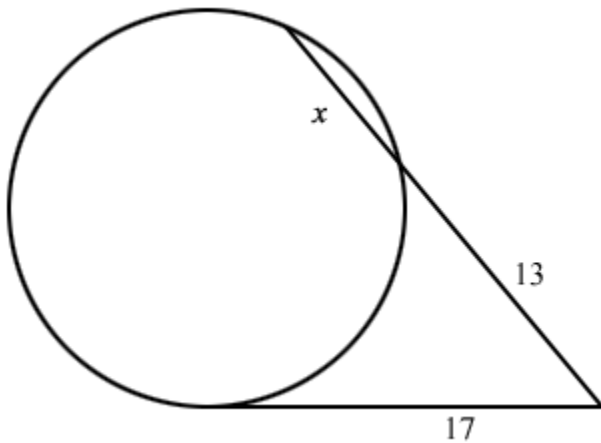
- A. $(x + 1)^2 + y^2 = 2$
- B. $(x - 1)^2 + y^2 = 1$
- C. $x^2 + y^2 = 1$
- D. $(x + 1)^2 + y^2 = 1$

Go to the Next Page

64. $\triangle GHI$ has vertices $G(-4, 6)$, $H(1, -7)$, and $I(-2, -8)$.
Find the vertices of the image under a dilation centered
at the origin with a scale factor of $\frac{1}{4}$.

- A. $G'(-1, \frac{3}{2})$, $H'(\frac{1}{4}, -\frac{7}{4})$, $I'(-\frac{1}{2}, -2)$
 B. $G'(-16, 24)$, $H'(4, -28)$, $I'(-8, -32)$
 C. $G'(-1, 6)$, $H'(\frac{1}{4}, -7)$, $I'(-\frac{1}{2}, -8)$
 D. $G'(-16, 4)$, $H'(4, -7)$, $I'(-8, -8)$

- 65.



Find x . Round answer to the nearest tenth.

66. Trapezoid $QRST$ has vertices $Q(0, 3)$, $R(3, 3)$, $S(7, 3)$, and $T(-1, -3)$. Find the vertices of the image under a reflection on the line $y = x$.

- A $Q'(0, 3)$, $R'(-3, 3)$, $S'(-7, -3)$, and $T'(1, -3)$.
- B $Q'(0, 3)$, $R'(3, -3)$, $S'(7, 3)$, and $T'(-1, 3)$
- C $Q'(0, -3)$, $R'(-3, -3)$, $S'(-7, 3)$, and $T'(1, 3)$
- D $Q'(3, 0)$, $R'(3, 3)$, $S'(-3, 7)$, $T'(-3, -1)$

67.

Square $ABCD$ has vertices $A(-3, 1)$, $B(2, 2)$, $C(3, -3)$, and $D(-2, -4)$. Find the coordinates of the vertices of the image under the translation $(x, y) \rightarrow (x - 2, y + 3)$.

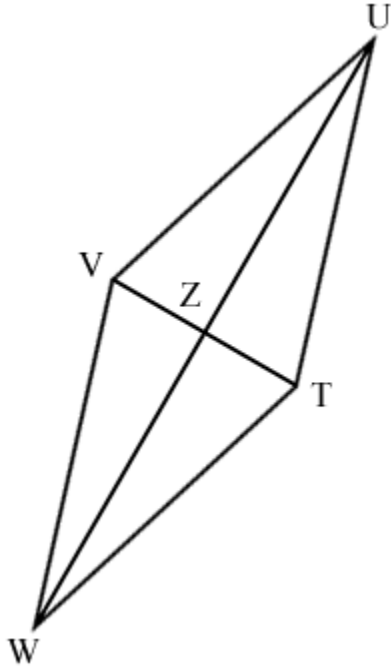
- A $A'(-5, 4)$, $B'(0, 5)$, $C'(1, 0)$, $D'(-4, -1)$
- B $A'(-1, 4)$, $B'(4, 5)$, $C'(5, 0)$, $D'(0, -1)$
- C $A'(-5, -2)$, $B'(0, -1)$, $C'(1, -6)$, $D'(-4, -7)$
- D $A'(-1, -2)$, $B'(4, -1)$, $C'(5, -6)$, $D'(0, -7)$

68.

A 6-foot person walks 85 feet from a tree. The angle formed by the person's line of sight and the horizontal (angle of elevation) is 38° . About how tall is the tree? Round your answer to the nearest tenth.

_____ ft

69.



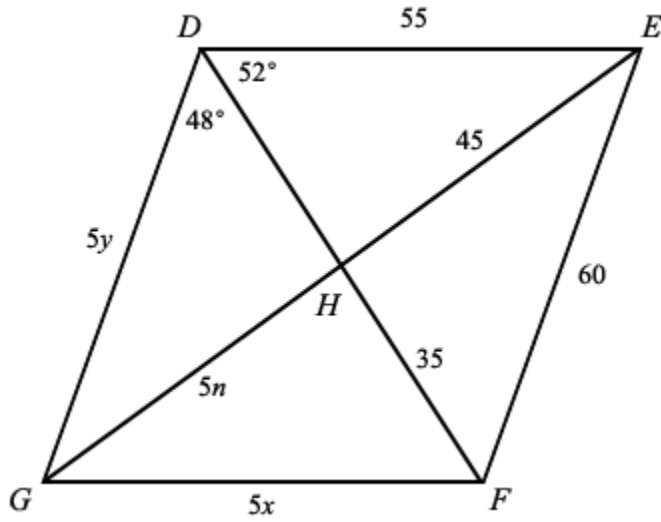
Use rhombus $TUVW$ with $TZ = 12x - 40$, $ZV = 4x$, and $WZ = 50$.

Find WU .

Go to the Next Page

70.

Use $\square DEFG$ to find each measure or value.



Find $m\angle FED$.

This is the end of the test.