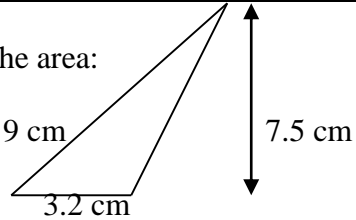
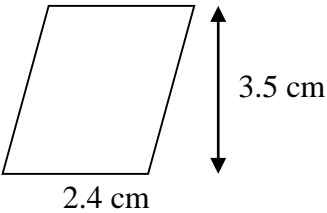
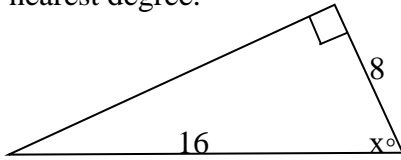
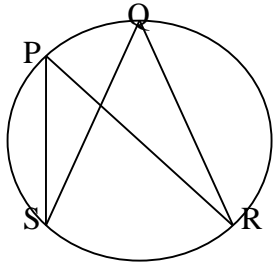
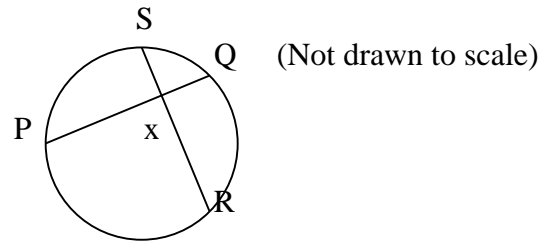


<p>1. Find the area:</p> 	<p>14. (a) Lines l and m intersect at point O and the Angle between l and m is 23°. A figure is reflected in line l followed by a reflection in line m. The overall effect is: (b) If the parallel lines p and q are 6cm apart and a figure is reflected in line p and then in line q, the overall effect is:</p>
<p>2. Find the area:</p> 	<p>15. The shorter leg of a 30°-60°-90° triangle is 5.1 feet long. Find the perimeter.</p> <p>16. An expression for the circumference of a circle with radius r is:</p>
<p>3. If $A = (3, 1)$ and $B = (2, -4)$. Find vector \overrightarrow{AB}</p>	<p>17. If two solids have the same height and the same cross-sectional area at every level, then they have the same?</p>
<p>4. Two legs of a right triangle have lengths 10 and 7. The measure of the smaller acute angle is:</p>	<p>18. Which of the following is not enough information to solve a right triangle?</p>
<p>5. A rectangle has length a and width b. An expression for its area is...</p>	<p>(A) One side length and one acute angle (B) One side length and one trig. ratio (C) Two sides (D) Two angles</p>
<p>6. $A(2, -3)$ is translated onto A' by the vector $\vec{u} = \langle -4, 2 \rangle$ Find the coordinates of A'.</p>	<p>19. The sides of a right triangle are $x + 3$, $x + 4$, and $x + 5$ units long. Find the side lengths of the triangle by solving for x.</p>
<p>7. What is a Pythagorean triple?</p>	<p>20. Find the surface area of a sphere that has a diameter of 12 cm. Express your answer in terms of π.</p>
<p>8. Triangle ABC is transformed by the motion rule $(x, y) \rightarrow (x + 2, y - 3)$ where $A(3, 2)$, $B(2, 4)$ and $C(0, 1)$. Find the coordinates of A', B', C'.</p>	<p>21. A forester, 80 feet from the base of a tree, observes that the angle between the ground and the top of the tree is 60°. Find the height of the tree.</p>
<p>9. For a circle of radius 8 feet, find the arc length s subtended by a central angle of 31°.</p>	<p>22. Write the ratio of vowels to consonants in the word MATHEMATICS.</p>
<p>10. The area of a trapezoid is 140 in^2. If the height is 8 inches and the longer base 24 inches, what is the length of the shorter base? Round your answer to the nearest tenth.</p>	<p>23. If a circle has a radius of 8 inches, what is the circumference rounded to the nearest whole number? (Use $\pi = 3.14$)</p>
<p>11. A line which intersects a circle at exactly two points is called...</p>	<p>24. Use your calculator to determine $\tan 53^\circ$</p>
<p>12. Find the missing angle and side measures of $\triangle ABC$, given that $\angle A = 30^\circ$, $\angle C = 90^\circ$ and $CB = 10$.</p>	<p>25. Inside a semicircular tunnel of diameter 30 feet, a vertical support beam is placed 8 feet from the side of the tunnel. How tall is the beam? (Round to one decimal place)</p>
<p>13. Define a prism.</p>	<p>26. Find the area of an equilateral triangle with a side of 7.</p>

27. Solve for x to the nearest degree.

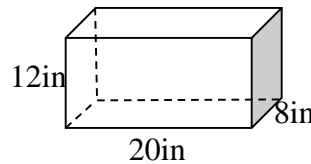


36. Given: measure of arc $SQ = 80^\circ$, measure of arc $PR = 152^\circ$, then $m\angle x = ?$

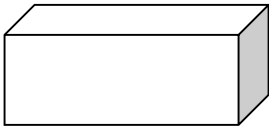


28. Find $m\angle PSQ$
if $m\angle PSQ = 3y + 4$
and $m\angle PRQ = 2y + 16$

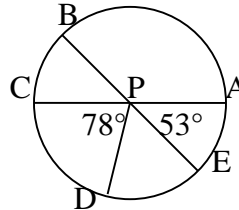
37. If all the angles in the faces of the polyhedron below are right angles, then its surface area is...



29. Find the number of faces, edges and vertices of:

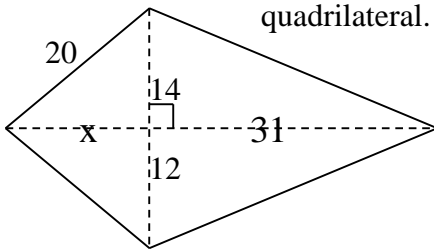


38. The measure of arc ADB is....

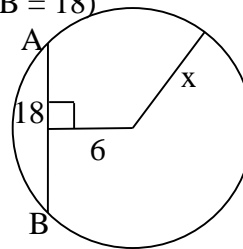


30. A segment whose endpoints are on the circle is ?

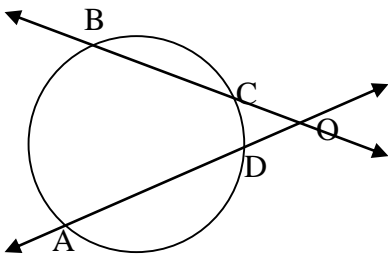
31. Find the area of the quadrilateral.



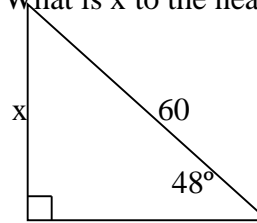
39. Find the value of x to the nearest tenth.
($AB = 18$)



32. Given: measure of arc $AB = 92^\circ$, measure of arc $CD = 28^\circ$, then $m\angle DOC$ is?

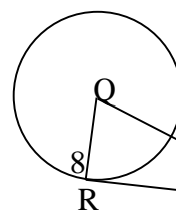


40. What is x to the nearest hundredth?



33. What is the segment that goes through center of circle and touches circle circumference twice?

41.

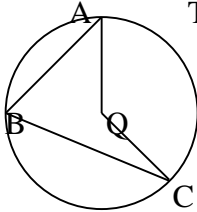
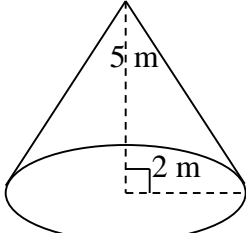
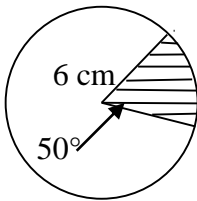
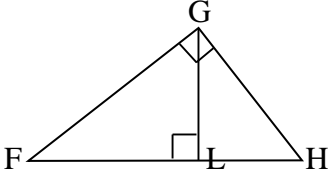
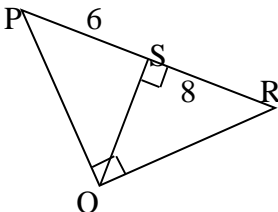
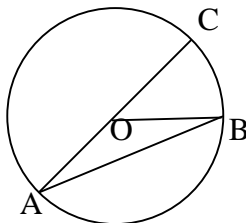
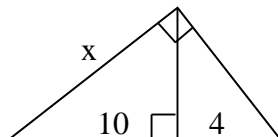


\overline{SR} is tangent to circle Q at R .
Find RS . ($QS = 20$)
($QR = 8$)

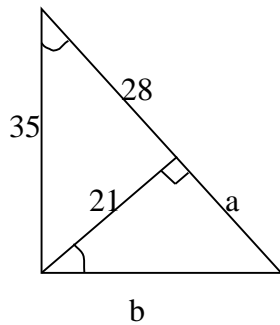
34. Solve for x : $\frac{5}{x+2} = \frac{2}{x}$

35. (a) Find the exact total surface area of a cone that has a slant height of 25 in and radius of 6 in.
(b) Find the height of the cone.
(c) Find the volume of the cone.

42. What's the ratios of the lengths of sides of
(a) $30^\circ-60^\circ-90^\circ\Delta$? (b) $45^\circ-45^\circ-90^\circ\Delta$?

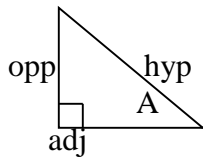
<p>43. (A) A circle is <i>circumscribed</i> about a polygon if: (B) Draw an example of common internal tangents and common external tangents of 2 circles.</p>	<p>54. Write down all the ways that 2 triangles can be similar.</p>
<p>44. Draw: (A) a regular polyhedron (B) a non-convex polyhedron (C) a polygon</p>	<p>55. Given circle center Q and $m\angle B = 72^\circ$. Then the measure of arc AC is... is...</p> 
<p>46. Convert 145° to radians and leave answer in terms of π.</p>	<p>56. Calculate the volume of the cone. Use $\pi = 3.14$.</p> 
<p>47. A student is trying to work out the height of the music teacher. He is 15 feet away from the teacher and the angle of elevation from his eye to the top of teacher's head is 22°. How tall is the teacher in feet and inches?</p>	<p>57. Find the area of the shaded region. (Radius = 6 cm and central angle = 50°)</p> 
<p>48. In the figure below, an altitude is drawn to the hypotenuse of a right triangle. Which of the following is not true?</p>  <p>(A) $\triangle FLG \sim \triangle GHL$ (B) $\triangle GLH \sim \triangle FGH$ (C) $\triangle FGH \sim \triangle FLG$ (D) $\triangle GLH \sim \triangle FLG$</p>	<p>58. A field is 150 m by 450 m. A barn 30 m by 41 m is built in the field. How much area is left over?</p>
<p>49. Find the equation of the circle with center (-3, 5) and (2, -4) is a point on the circle.</p>	<p>59. Draw the graphs of (a) $y = \cos x$ (b) $y = \sin x$ (c) $y = \tan x$</p>
<p>50. Given: PS = 6, SR = 8, then the value of QS is....</p> 	<p>60. Given: In circle O, measure of arc BAC = 290°. Find $m\angle A$</p> 
<p>51. Find the value of x.</p> 	<p>61. An aquarium in a restaurant is a rectangular prism and measures 2.5 feet by 5 feet by 3 feet. What is the volume of the aquarium?</p>
<p>52. If $a = 3, c = 4, \beta = 40^\circ$, then find side b.</p>	<p>62. Assume that $\angle A$ is an acute angle and $\sin A = 0.13$. The $m\angle A = ?$</p>
<p>53. An automobile has 15-inch diameter wheels. If the wheels revolved four times after the brakes were applied, the stopping distance was approximately...</p>	<p>63. Find the surface area, in square centimeters, of a right circular cylinder if the radius is 4 cm and the height is 10 cm.</p>

64. Solve for a and b.



65. Write down the definition of similar polygons.

66. The sine of $\angle A$ is the ratio:



67. Convert 1.45 radians to degrees.

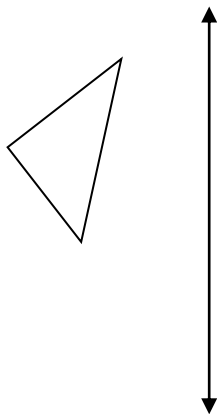
68. Find the volume of a sphere 6 ft in diameter.

69. Solve the triangle if $a = 5, b = 6, C = 39^\circ$

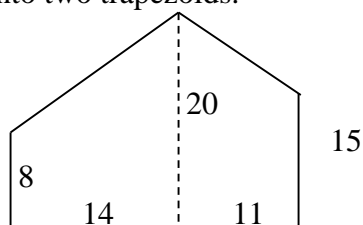
70. Define concentric circles.

71. $(-3,4)$ is a point on the terminal side of θ . Find the exact values of $\cos\theta$.

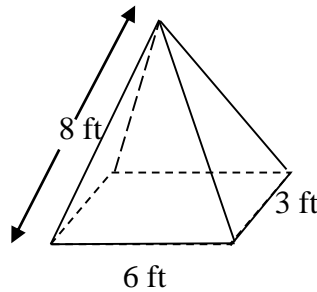
72. Reflect the triangle in the line



73. Find the area of the region shown by dividing it into two trapezoids.



74. The pyramid shown has a rectangular base and faces that are isosceles triangles. Find the total surface area. (Not drawn to scale)



75. Draw a quadrilateral with:
 (a) Exactly one line of symmetry.
 (b) Exactly two lines of symmetry.
 (c) Exactly four lines of symmetry.

76. Find the exact value of $\cos 150^\circ$.

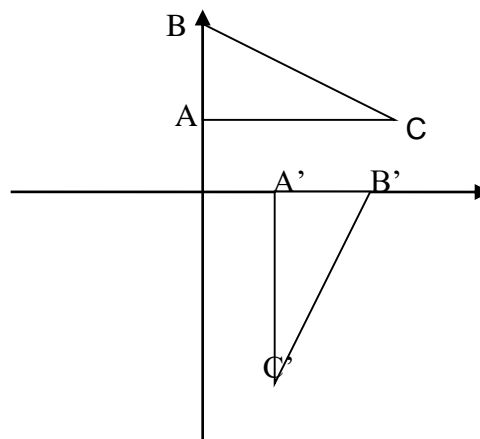
77. Solve the following system:

$$\begin{aligned} x &= 2y + 5 \\ 3x - 4y &= -20 \end{aligned}$$

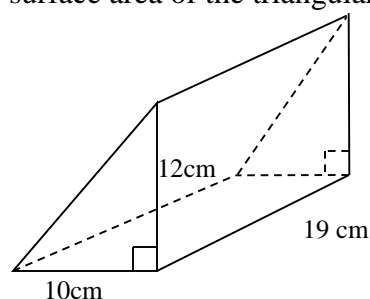
78. Find area of a sector with a radius of 4 and $\theta = 50^\circ$. Leave the answer in terms of π .

79. Solve the triangle if $a = 5, B = 42^\circ, C = 39^\circ$

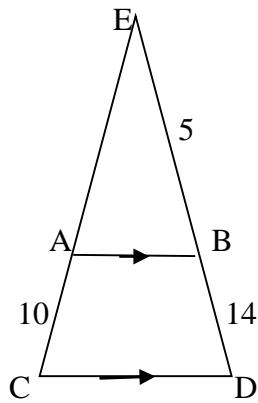
80. State the transformation of ABC.



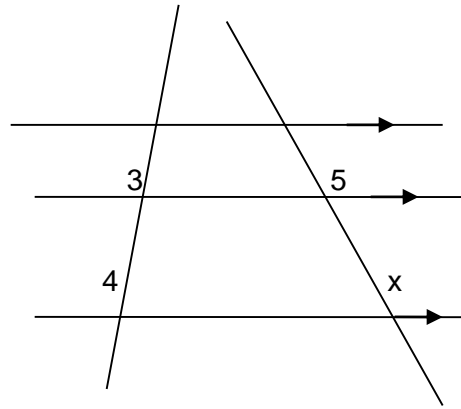
81. Find (a) the volume and (b) the surface area of the triangular prism.



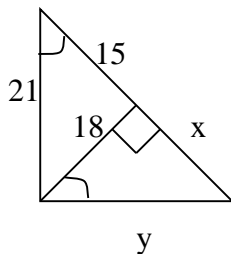
82. Find AE given that \overline{AB} is parallel to \overline{CD}



91. Find x.



83.



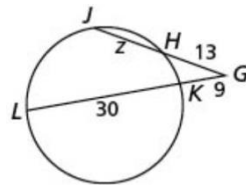
Solve for x and y.

92. Plot the points $A = (2, -1)$, $B = (6, -1)$, $C = (6, -3)$ and $D = (2, -3)$.

- Reflect ABCD in the line $y = 1$.
- Rotate $A'B'C'D'$ 90° counterclockwise about the origin.
- Translate $A''B''C''D''$ along the vector $\langle -5, 2 \rangle$

84. Find the geometric mean of 7 and 15.

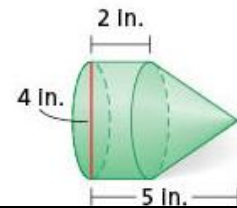
85. Find the value of z and the length of JG.



93. Find the other leg of a right triangle, given one leg is 18 cm and the hypotenuse is 34 cm.

94. Find:

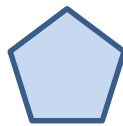
- the volume
- the surface area of the composite figure.



86. The point $A(5, -2)$ is translated onto A' by the Vector $\vec{u} = \langle -6, 7 \rangle$. The coordinates of A' are:

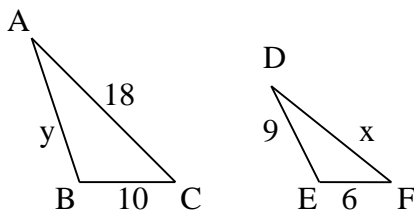
- Find the area of a regular octagon with side length 6 m. Round to the nearest tenth.
- Find the area of a regular hexagon with side length 10 cm. Round to the nearest tenth.

87. What are the angle of rotation and the order of rotational symmetry for the regular polygon?

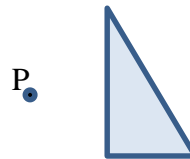


96. According to a recent survey, 30 out of 40 geometry students like math. What's the ratio of those students that like math to total number of students?

88. Given: $\triangle ABC$ is similar to $\triangle DEF$. Solve for x and y.



97. Perform a dilation with a scale factor of 2 given the triangle and the center of dilation P.



89. Find the volume of a regular square based pyramid with base side length of 8 cm and slant height of 5cm.

98. Triangle ABC is reflected in line $x = 2$ where $A(3,2)$, $B(2,4)$ and $C(0,1)$. Find the coordinates of A' , B' , C' .

90. What is the effect on
(a) the volume and (b) the surface area of a sphere if the radius is multiplied by 4?