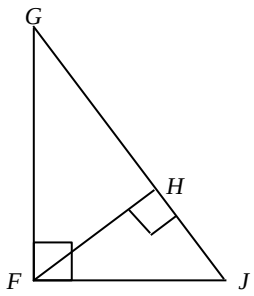
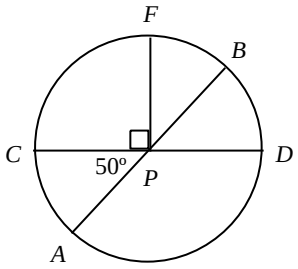
Geometry Final Review

Short Answer

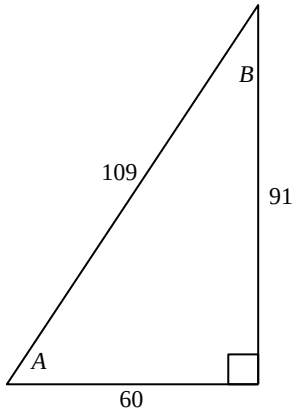
1. Write a similarity statement comparing the three triangles in the diagram.



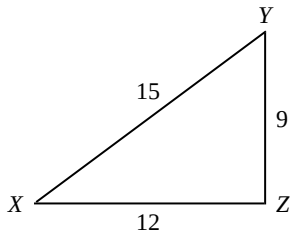
2. Find m$\overset{\frown}{CFB}$.



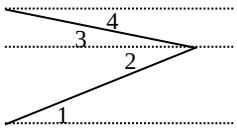
3. Find the sine and cosine of the acute angles in the right triangle.



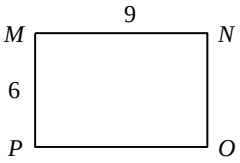
4. Write the trigonometric ratio for cos *X* as a fraction and as a decimal rounded to the nearest hundredth.

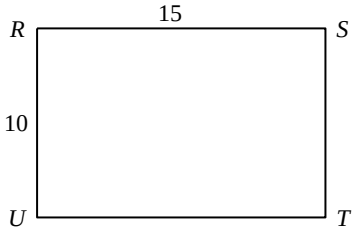


5. Classify each angle in the diagram as an angle of elevation or an angle of depression.

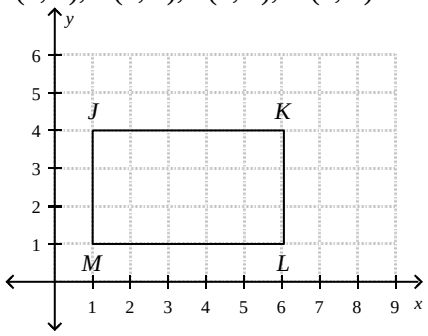


6. Determine whether the rectangles are similar. If so, write the similarity ratio and a similarity statement.

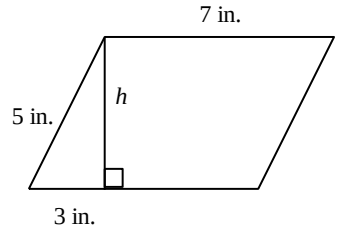




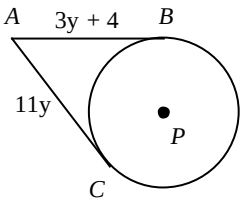
7. Apply the dilation D to the polygon with the given vertices. Name the coordinates of the image points.
$D\colon (x, y) \rightarrow (3.5x, 3.5y)$
$J(1, 4)$, $K(6, 4)$, $L(6, 1)$, $M(1, 1)$



8. Find the area of the parallelogram.

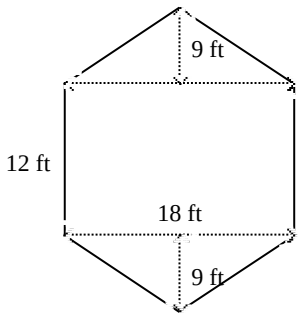


9. $\overline{AB}$ and $\overline{AC}$ are tangent to $\odot P$. Find AB.

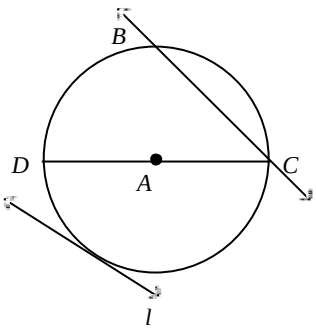


10. Find the volume of a right rectangular prism with length 12 in., width 10 in., and height 5 in. Round to the nearest tenth, if necessary.

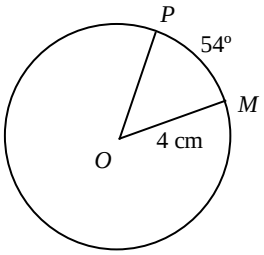
11. Find the area of the composite figure.



12. Identify the secant that intersects $\odot A$.

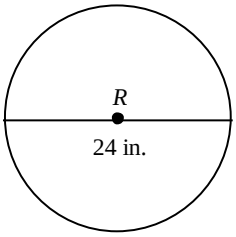


13. Find the area of sector *POM*. Give your answer in terms of π.

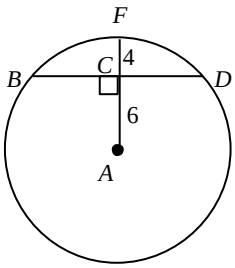


14. Find the geometric mean of the pair of numbers 4 and 25.

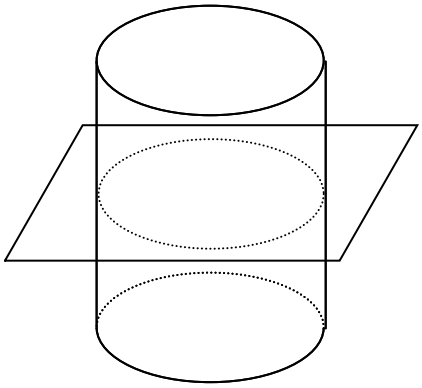
15. Find the area of $\odot R$ in terms of π.



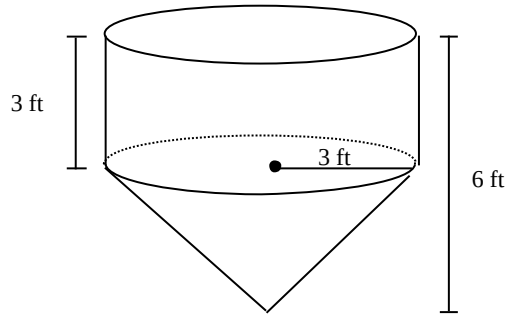
16. Find BD.



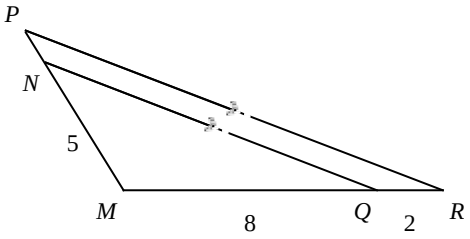
17. Describe the cross section.



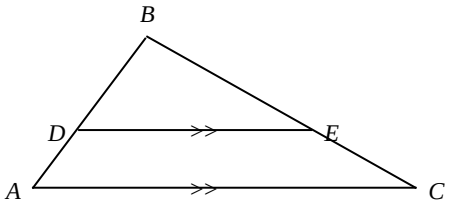
18. Find the volume of the composite figure. Round to the nearest hundredth.



19. Find NP.



20. Explain why the triangles are similar and write a similarity statement.



Geometry Final Review
Answer Section

SHORT ANSWER

1. $\triangle GFJ \sim \triangle GHF \sim \triangle FHJ$
2. $m\overset{\frown}{CFB} = 130°$
3. $\sin A = \frac{91}{109}$; $\cos A = \frac{60}{109}$
   $\sin B = \frac{60}{109}$; $\cos B = \frac{91}{109}$
4. $\cos X = \frac{12}{15} = 0.80$
5. Angles of elevation: $\angle 1$, $\angle 3$
   Angles of depression: $\angle 2$, $\angle 4$
6. The similarity ratio is $\frac{3}{5}$ and rectangle *MNOP* ~ rectangle *RSTU*.
7. $J'(3.5, 14)$, $K'(21, 14)$,
   $L'(21, 3.5)$, $M'(3.5, 3.5)$
8. 28 in^2
9. $AB = \frac{11}{2}$
10. 600 in^3
11. 378 ft^2
12. $\overleftrightarrow{BC}$
13. $2.4\pi \text{ cm}^2$
14. 10
15. $144\pi \text{ cm}^2$
16. $BD = 16$
17. The cross section is a circle.
18. 113.04 ft^3
19. $NP = 1.25$
20. $\angle A \cong \angle BDE$ and $\angle C \cong \angle BED$ by the Corresponding Angles Postulate.
    $\triangle ABC \sim \triangle DBE$ by AA Similarity.