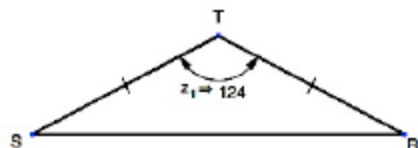


READY

Topic: Finding missing angles in a triangle

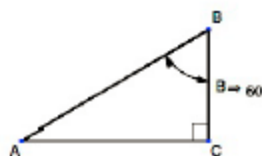
Use the given information and what you know about triangles to find the missing angles.
(All angle measures are in degrees.)

1.



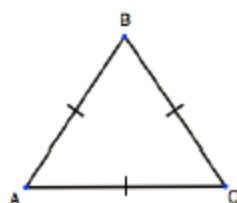
Answer: $\angle S = 28^\circ, \angle R = 28^\circ$

2.



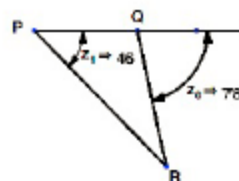
Answer: $\angle A = 30^\circ$

3.



Answer: $\angle A = 60^\circ, \angle B = 60^\circ, \angle C = 60^\circ$

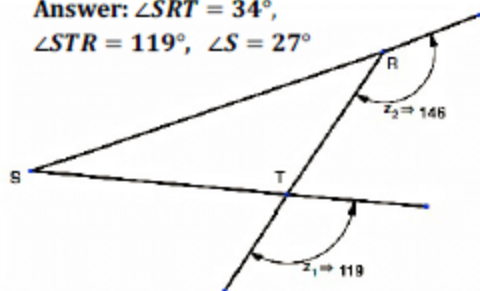
4.



Answer: $\angle R = 60^\circ, \angle PQR = 102^\circ, \angle P = 32^\circ$

5.

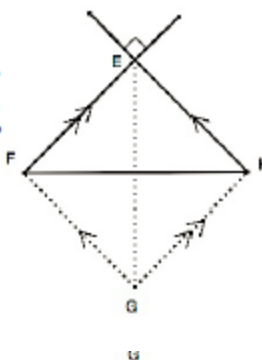
Answer: $\angle SRT = 34^\circ, \angle STR = 119^\circ, \angle S = 27^\circ$



6. $\overline{EG} \cong \overline{FH}$

Answer:

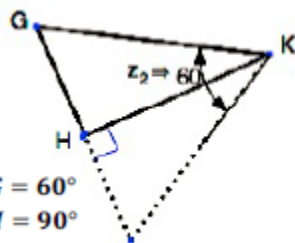
$\angle E = 90^\circ, \angle F = 45^\circ, \angle H = 45^\circ$



7.

Answer:

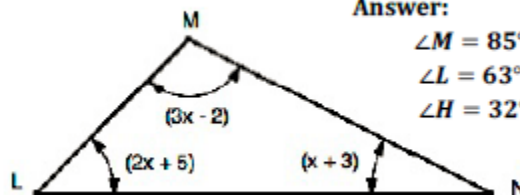
$\angle G = 60^\circ, \angle H = 90^\circ, \angle K = 30^\circ$



8.

Answer:

$\angle M = 85^\circ, \angle L = 63^\circ, \angle N = 32^\circ$



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SET

Topic: Calculating the surface area and volumes of combined shapes.

Answer the following questions about the Washington Monument.

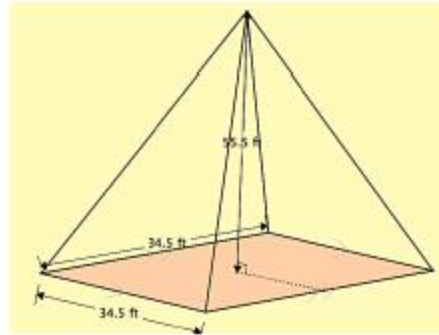
The picture at the right is of the Washington Monument in DC. The shaft of the monument is a square frustum. The bottom square measures 55 ft. on a side and the top square measures 34.5 feet. The top is a square pyramid.

9. Find the dimensions of the 4 triangular faces of the pyramid.
(Height is 55.5 ft)

Answer:

Altitude ≈ 58.12 ft

Sides ≈ 60.63 ft



<https://flickr/p/axqjPQ>

10. Find the area of each face of the pyramid. **Answer:**
 $A = 1002.57$ ft²

10.25 ft
→ ←

10. Find the area of each face of the pyramid. **Answer:**
 $A = 1002.57$ ft²

11. Find the area of the 4 trapezoids that make the faces of the frustum.

The area of a trapezoid: $A = \frac{b_1 + b_2}{2} h$

Answer: Area of 1 side = 22375 ft², all 4 sides = 89500 ft²

12. Find the total surface area of the Washington Monument.

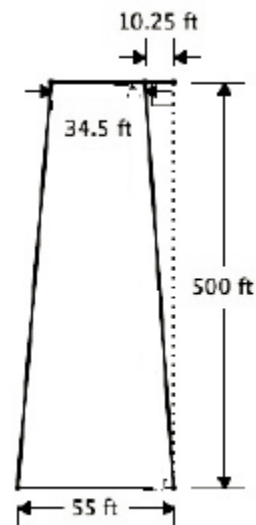
Answer: $4(1002.57) + 89500 = 93510.28$ ft²

13. Find the total volume of the Washington Monument.

Volume of a square frustum: $V = \frac{1}{3}h(a^2 + ab + b^2)$ where a and b are the side lengths of each square. **Volume_F = 1,018,791.67 ft³**

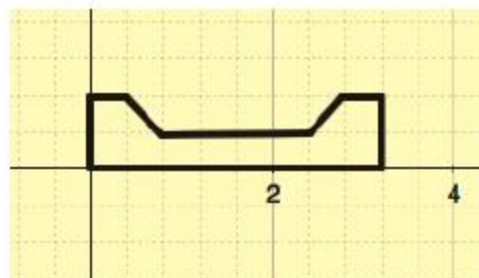
Volume of pyramid: $V = \frac{1}{3}l^2h$ **Volume_P = 22,091.63 ft³**

Answer: Total Volume = 1,040,883.3 ft³



14. Draw a sketch of the three-dimensional object formed by rotating the figure about the x-axis.

Answer:



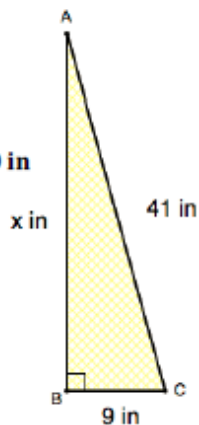
GO

Topic: Solving for missing sides in a right triangle

Calculate the missing sides in the right triangle. Give your answers in simplified radical form.

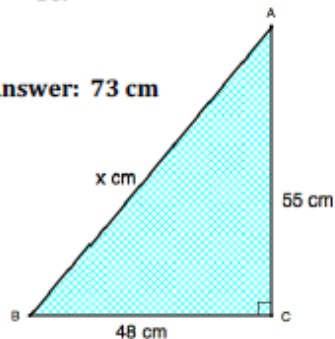
15.

Answer: 40 in



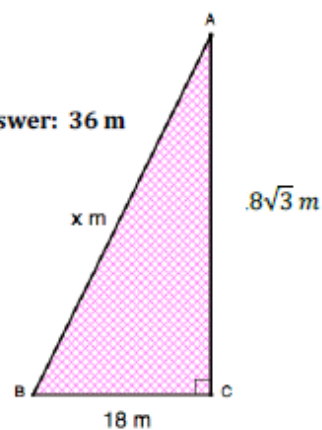
16.

Answer: 73 cm



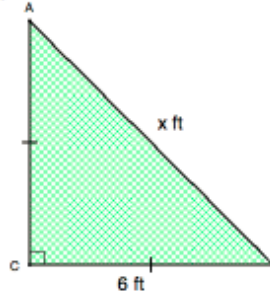
17.

Answer: 36 m



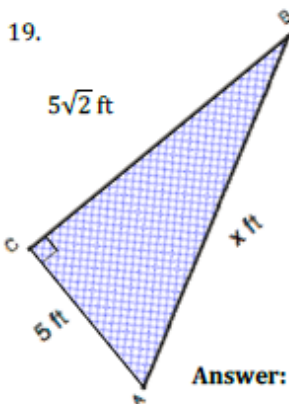
18.

Answer: $6\sqrt{2}$ in



19.

$5\sqrt{2}$ ft



20.

Answer: $8\sqrt{5}$ mi

