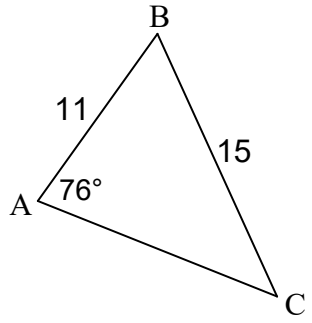
Laws of Sines and Cosines Name _____

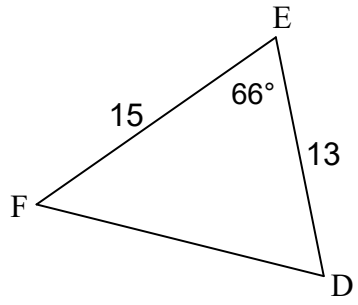
per __ date _____

# Solve the triangles. Round answers to the nearest tenth.

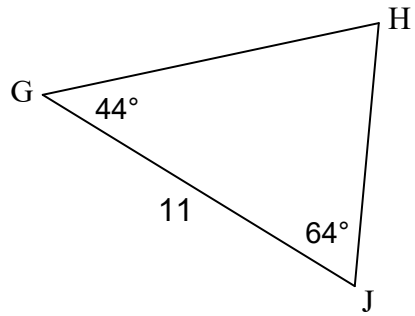
1.



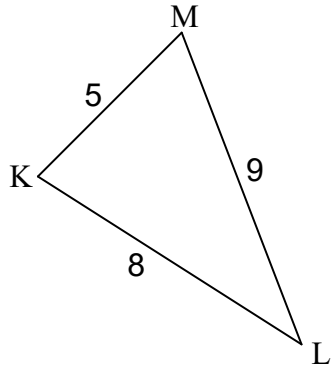

2.



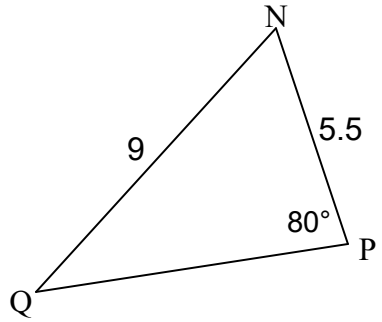

3.



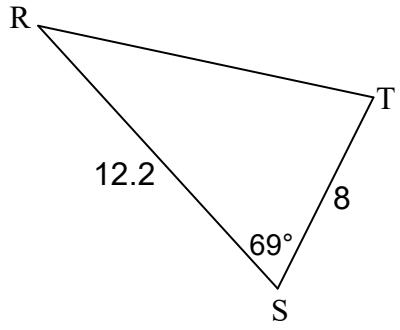

4.




5.




6.

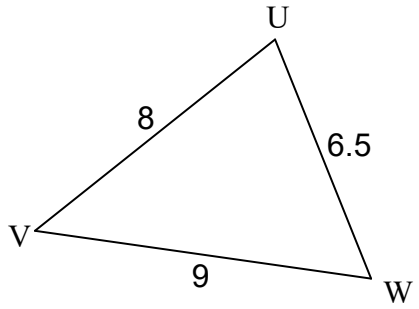


Laws of Sines and Cosines Name _____

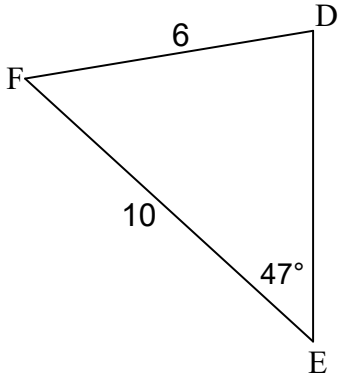
per __ date _____

# Solve the triangles. Round answers to the nearest tenth.

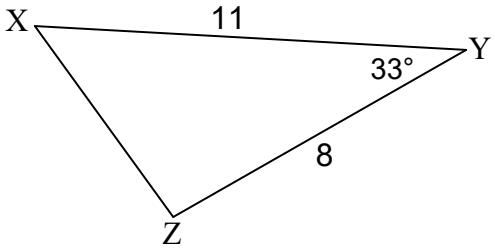
7.



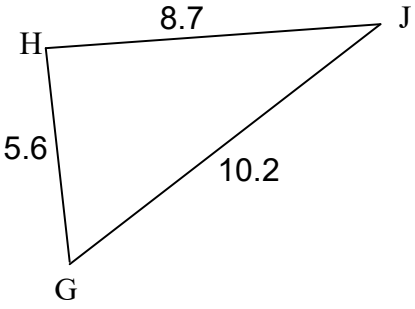

10.



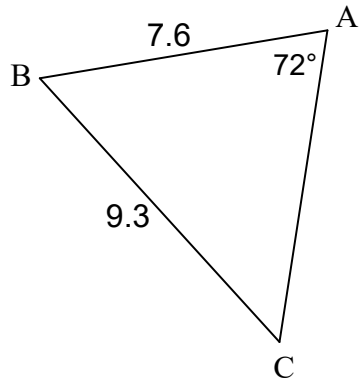

8.



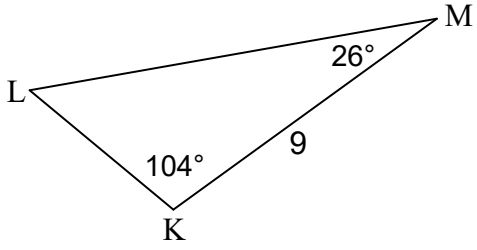

11.




9.




12.



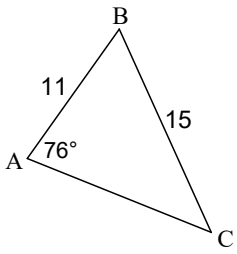
Laws of Sines and Cosines Name _____

# ANSWERS

per __ date _____

## Solve the triangles. Round answers to the nearest tenth.

1.

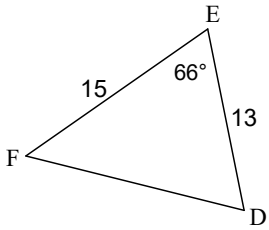



$\frac{\sin C}{11} = \frac{\sin 76°}{15} \rightarrow m\angle C \approx 45.1°$

$m\angle B \approx 58.9°$

$\frac{b}{\sin 58.9°} = \frac{15}{\sin 76°} \rightarrow b \approx 13.2$

2.

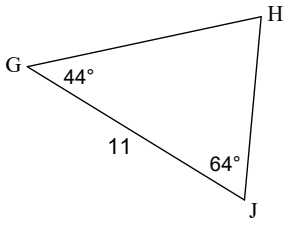



$e^2 = 15^2 + 13^2 - 2 \cdot 15 \cdot 13 \cdot \cos 66° \approx 235.4$

$e \approx 15.3;\ \frac{\sin F}{13} = \frac{\sin 66}{15.3} \rightarrow m\angle F \approx 50.7°$

$m\angle D \approx 63.3°$

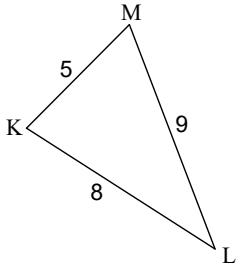
3.




$m\angle H = 72°;\ \frac{g}{\sin 44°} = \frac{11}{\sin 72°} \rightarrow g \approx 8.0$

$\frac{j}{\sin 64°} = \frac{11}{\sin 72°} \rightarrow j \approx 10.4$

4.

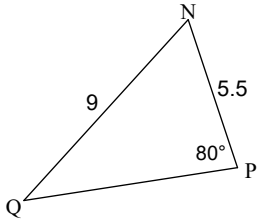



$\cos K = \frac{5^2 + 8^2 - 9^2}{2 \cdot 5 \cdot 8} = \frac{8}{80} = 0.1$

$m\angle K \approx 84.3° \rightarrow \frac{\sin M}{8} = \frac{\sin 84.3°}{9}$

$m\angle M \approx 74.9° \rightarrow m\angle L \approx 20.8°$

5.

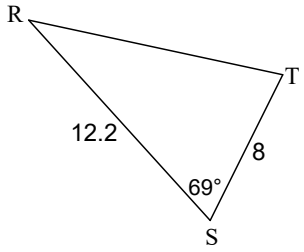



$\frac{\sin Q}{5.5} = \frac{\sin 80°}{9} \rightarrow \sin Q \approx 0.6018$

$m\angle Q \approx 37.0° \rightarrow m\angle N \approx 63.0°$

$\frac{n}{\sin 63°} = \frac{9}{\sin 80°} \rightarrow n \approx 8.1$

6.




$s^2 = 12.2^2 + 8^2 - 2 \cdot 12.2 \cdot 8 \cdot \cos 69° \approx 142.9$

$s \approx 11.9 \rightarrow \frac{\sin R}{8} = \frac{\sin 69°}{11.9} \rightarrow \sin R \approx 0.6248$

$m\angle R \approx 38.7° \rightarrow m\angle T \approx 72.3°$

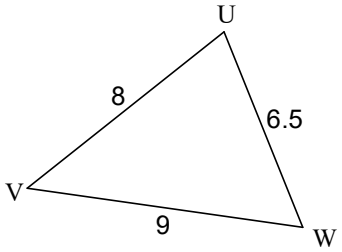
Laws of Sines and Cosines Name _____

# ANSWERS

per __ date _____

## Solve the triangles. Round answers to the nearest tenth.

7.




$\cos U = \dfrac{8^2 + 6.5^2 - 9^2}{2 \cdot 8 \cdot 6.5} = \dfrac{25.25}{104} \approx 0.2428$

$m\angle U \approx 75.9° \rightarrow \dfrac{\sin W}{8} = \dfrac{\sin 75.9}{9}$

$\sin W \approx 0.8623 \rightarrow m\angle W \approx 59.6° \rightarrow m\angle V \approx 44.5°$

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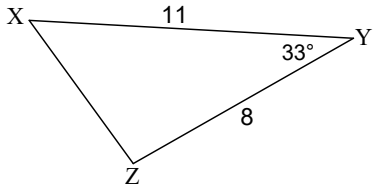
8.




$y^2 = 11^2 + 8^2 - 2 \cdot 11 \cdot 8 \cdot \cos 33° \approx 37.4$

$y \approx 6.1 \rightarrow \dfrac{\sin X}{8} = \dfrac{\sin 33°}{6.1} \rightarrow \sin X \approx 0.7125$

$m\angle X \approx 45.4° \rightarrow m\angle Z \approx 101.6°$

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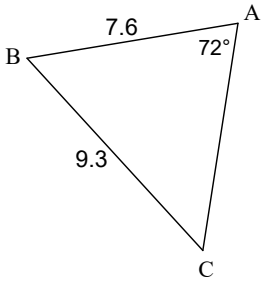
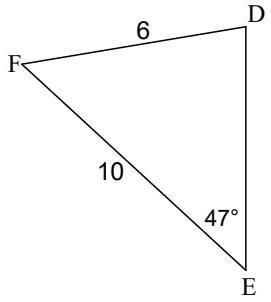
9.




$\dfrac{\sin C}{7.6} = \dfrac{\sin 72°}{9.3} \rightarrow \sin C \approx 0.7772 \rightarrow m\angle C \approx 51.0°$

$m\angle B \approx 57.0° \rightarrow \dfrac{b}{\sin 57.0°} = \dfrac{9.3}{\sin 72°} \rightarrow b \approx 8.2$

10.




$\dfrac{\sin D}{10} = \dfrac{\sin 47°}{6} \rightarrow \sin D \approx 1.2189$

IMPOSSIBLE!

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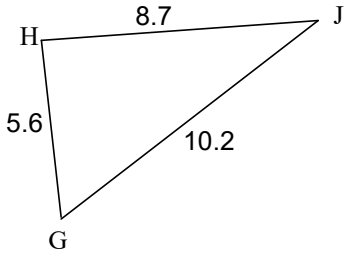
11.




$\cos H = \dfrac{5.6^2 + 8.7^2 - 10.2^2}{2 \cdot 5.6 \cdot 8.7} = \dfrac{3.01}{97.44} \approx 0.0309$

$m\angle H \approx 88.2° \rightarrow \dfrac{\sin J}{5.6} = \dfrac{\sin 88.2°}{10.2} \rightarrow \sin J \approx 0.5486$

$m\angle J \approx 33.3° \rightarrow m\angle G \approx 58.5°$

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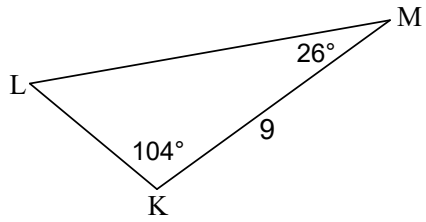
12.




$m\angle L = 50° \rightarrow \dfrac{k}{\sin 104°} = \dfrac{9}{\sin 50°} \rightarrow k \approx 11.4$

$\dfrac{m}{\sin 26°} = \dfrac{9}{\sin 50°} \rightarrow m \approx 5.2$