

The Law of Sines

State the number of possible triangles that can be formed using the given measurements.

1) $m\angle A = 31^\circ$, $c = 20$ mi, $a = 16$ mi

2) $m\angle B = 82^\circ$, $a = 34$ m, $b = 22$ m

3) $m\angle B = 110^\circ$, $b = 11$ m, $a = 4$ m

4) $m\angle A = 64^\circ$, $c = 33$ in, $a = 32$ in

Find each measurement indicated. Round your answers to the nearest tenth.

5) $m\angle A = 64^\circ$, $m\angle B = 98^\circ$, $a = 29$ mi
Find b

6) $m\angle A = 57^\circ$, $c = 35$ cm, $a = 33$ cm
Find b

7) $m\angle C = 128^\circ$, $b = 35$ in, $c = 35$ in
Find a

8) $m\angle C = 90^\circ$, $m\angle B = 30^\circ$, $b = 15$ in
Find c

9) In $\triangle TRS$, $m\angle S = 118^\circ$, $s = 16$ ft, $r = 5$ ft
Find $m\angle R$

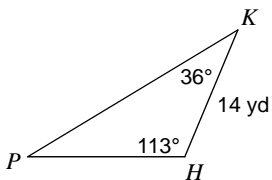
10) In $\triangle KHP$, $m\angle K = 27^\circ$, $p = 35$ m, $k = 18$ m
Find $m\angle P$

11) In $\triangle RST$, $m\angle R = 153^\circ$, $t = 29$ km, $r = 16$ km
Find $m\angle S$

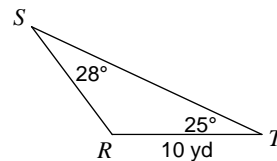
12) In $\triangle KHP$, $m\angle K = 55^\circ$, $p = 18$ m, $k = 27$ m
Find $m\angle P$

Solve each triangle. Round your answers to the nearest tenth.

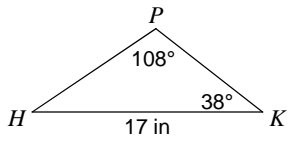
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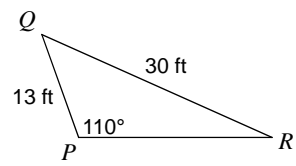
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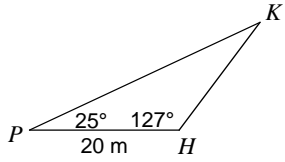
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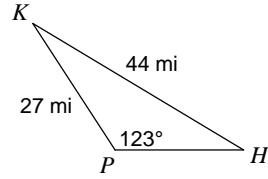
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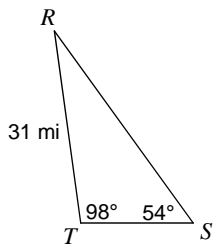
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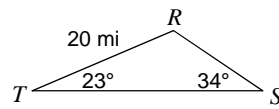
18)



19)

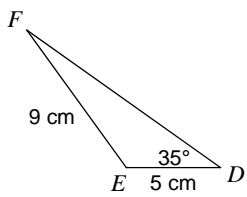


20)

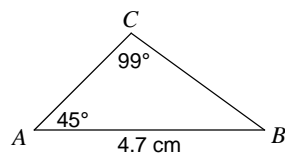


Find the area of each triangle to the nearest tenth.

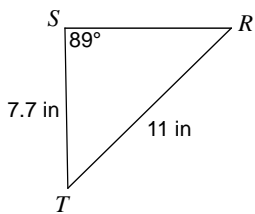
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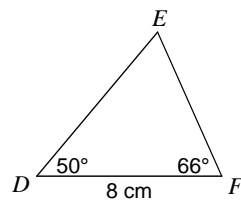
22)



23)



24)



The Law of Sines

State the number of possible triangles that can be formed using the given measurements.

1) $m\angle A = 31^\circ$, $c = 20$ mi, $a = 16$ mi

Two triangles

2) $m\angle B = 82^\circ$, $a = 34$ m, $b = 22$ m

None

3) $m\angle B = 110^\circ$, $b = 11$ m, $a = 4$ m

One triangle

4) $m\angle A = 64^\circ$, $c = 33$ in, $a = 32$ in

Two triangles

Find each measurement indicated. Round your answers to the nearest tenth.

5) $m\angle A = 64^\circ$, $m\angle B = 98^\circ$, $a = 29$ mi

Find b

32 mi

6) $m\angle A = 57^\circ$, $c = 35$ cm, $a = 33$ cm

Find b

34.1 cm or 4 cm

7) $m\angle C = 128^\circ$, $b = 35$ in, $c = 35$ in

Find a

Not a triangle

8) $m\angle C = 90^\circ$, $m\angle B = 30^\circ$, $b = 15$ in

Find c

30 in

9) In $\triangle TRS$, $m\angle S = 118^\circ$, $s = 16$ ft, $r = 5$ ft

Find $m\angle R$

16°

10) In $\triangle KHP$, $m\angle K = 27^\circ$, $p = 35$ m, $k = 18$ m

Find $m\angle P$

62° or 118°

11) In $\triangle RST$, $m\angle R = 153^\circ$, $t = 29$ km, $r = 16$ km

Find $m\angle S$

Not a triangle

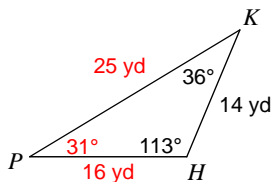
12) In $\triangle KHP$, $m\angle K = 55^\circ$, $p = 18$ m, $k = 27$ m

Find $m\angle P$

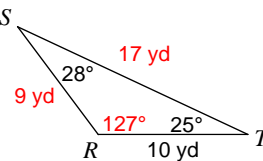
33.1°

Solve each triangle. Round your answers to the nearest tenth.

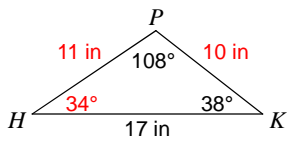
13)



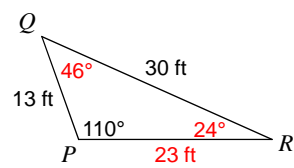
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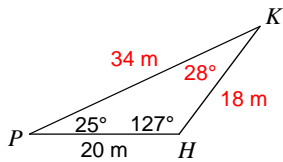
15)



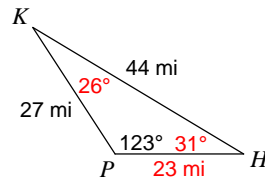
16)



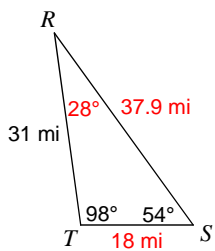
17)



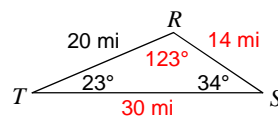
18)



19)

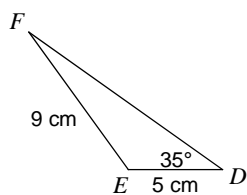


20)



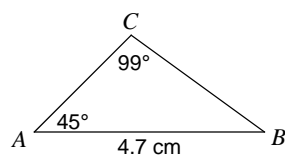
Find the area of each triangle to the nearest tenth.

21)



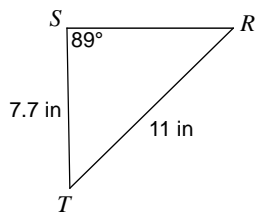
18.1 cm²

22)



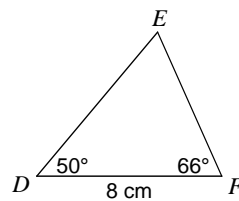
4.7 cm²

23)



30.8 in²

24)



24.8 cm²