

Area – Law of Sines

Find the area of each triangle.

1. $\triangle ABC$ if $a = 5$, $b = 9$, and $\angle C = 14^\circ$
2. $\triangle ABC$ if $c = 4$, $b = 8$, and $\angle A = 67^\circ$
3. $\triangle RST$ if $r = 4.8$, $t = 3.7$, and $\angle S = 43^\circ 10'$
4. $\triangle XYZ$ if $y = 34.19$, $z = 28.65$, and $\angle X = 138^\circ 27'$
5. $\triangle MAP$ if $m = 6$, $a = 9$, and $p = 13$
6. $\triangle ABX$ if $a = 5$, $b = 12$, and $x = 13$

Find the missing sides of each triangle.

7. $\triangle ABC$ if $\angle A = 52^\circ$, $\angle B = 31^\circ$, and $a = 8$
8. $\triangle PQR$ if $\angle P = 13^\circ$, $\angle Q = 133^\circ$, and $q = 9$
9. $\triangle AHS$ if $\angle A = 27^\circ$, $\angle H = 109^\circ$, and $a = 120$
10. $\triangle BIG$ if $\angle B = 2^\circ$, $\angle I = 79^\circ$, and $b = 20$
11. $\triangle PAF$ if $\angle P = 28^\circ$, $\angle A = 117^\circ$, and $f = 6$
12. $\triangle JAW$ if $\angle J = 48^\circ$, $\angle W = 73^\circ$, and $a = 5$
13. $\triangle ALP$ if $\angle A = 85^\circ$, $\angle L = 87^\circ$, and $p = 30$
14. $\triangle LOW$ if $\angle L = 2^\circ$, $\angle W = 3^\circ$, and $o = 500$

Answer Bank

1. 5.443
2. 14.73
3. 6.1
4. 324.9
5. 23.66
6. 30
7. $b = 5.229, c = 10.08$
8. $p = 2.768, r = 6.881$
9. $h = 249.9, s = 183.6$
10. $i = 562.54, g = 566.01$
11. $a = 9.321, p = 4.911$
12. $j = 4.335, w = 5.578$
13. $a = 214.7, l = 215.3$
14. $l = 200.21, w = 300.24$