

5.2 Law of Sines

Period _____

If possible, use the Law of Sines to solve each triangle (find all sides and angles). There may be one, two, or no triangles. Round answers to the nearest thousandth.

1) $m\angle A = 19^\circ, c = 32 \text{ m}, a = 24 \text{ m}$

2) $m\angle C = 26^\circ, b = 27 \text{ in}, c = 13 \text{ in}$

3) $m\angle B = 78^\circ, a = 9 \text{ ft}, b = 15 \text{ ft}$

4) $m\angle A = 56^\circ, c = 34 \text{ in}, a = 27 \text{ in}$

5) $m\angle C = 53^\circ, b = 30 \text{ in}, c = 29 \text{ in}$

6) $m\angle A = 89^\circ, a = 29 \text{ mi}, c = 8 \text{ mi}$

7) $m\angle B = 30^\circ$, $a = 28$ in, $b = 20$ in

8) $m\angle C = 116^\circ$, $b = 17$ ft, $c = 17$ ft

Divide.

9) $(63x^3 + 133x^2 + 79x + 19) \div (9x + 10)$

10) $(10r^3 - 67r^2 + 32r + 14) \div (10r - 7)$

Solve each equation. Remember to check for extraneous solutions.

11) $\sqrt{-42 + 13x} = x$

12) $\sqrt{8n + 1} - 4 = 5$

Solve the expression.

13) $6k^2 + 6k^4 - 6k - (?) = 4k^4 - 4k - 5k^2$

14) $6x^4 - x^3 + 5x - (?) = 8x^3 + 4x^4 - 5x$