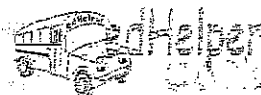


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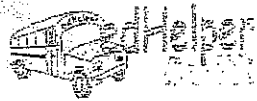
The Law of Sines

(Answer ID # 1064323)

Use the law of sines to solve for the unknown. Assume that all of the angles are acute.

<p>1.</p> $\frac{\sin 33^\circ}{12} = \frac{\sin C}{21}$ $\sin C = .9531$ $C = 72.4^\circ$ <p> $\angle M = 33^\circ$ $\underline{MZ} = 21$ $\underline{ZC} = 12$ $\angle C = 72.4^\circ$ </p>	<p>2.</p> $\frac{\sin 70^\circ}{48.1} = \frac{\sin T}{35.6}$ $\sin T = .6955$ $T = 44.1^\circ$ <p> $\angle Z = 70^\circ$ $\underline{ZC} = 35.6$ $\underline{CT} = 48.1$ $\angle C = 65.9^\circ$ </p>	<p>3.</p> $\frac{\sin 88^\circ}{6.1} = \frac{\sin 66^\circ}{PK}$ $PK = 5.6$ <p> $\angle K = 88^\circ$ $\angle R = 66^\circ$ $\underline{PR} = 6.1$ $\underline{PK} = 5.6$ </p>
<p>4.</p> $\frac{\sin 27^\circ}{74} = \frac{\sin 78^\circ}{LM}$ $LM = 159.4$ <p> $\angle U = 78^\circ$ $\angle M = 75^\circ$ $\underline{UM} = 74$ $\underline{LM} = 159.4$ </p>	<p>5.</p> $\frac{\sin T}{26} = \frac{\sin 82^\circ}{29}$ $\sin T = .888$ $T = 62.6^\circ$ <p> $\angle C = 82^\circ$ $\underline{TJ} = 29$ $\underline{JC} = 26$ $\angle J = 35.4^\circ$ </p>	<p>6.</p> $\frac{\sin 43^\circ}{12} = \frac{\sin 61^\circ}{KH}$ $KH = 15.4$ <p> $\angle K = 76^\circ$ $\angle J = 61^\circ$ $\underline{JK} = 12$ $\underline{KH} = 15.4$ </p>
<p>7.</p> $\frac{\sin P}{28.2} = \frac{\sin 76^\circ}{40.2}$ $\sin P = .681$ $P = 42.9^\circ$ <p> $\angle T = 76^\circ$ $\underline{PV} = 40.2$ $\underline{TV} = 28.2$ $\angle V = 61.1^\circ$ </p>	<p>8.</p> $\frac{\sin 72^\circ}{20} = \frac{\sin 26^\circ}{PM}$ $PM = 9.2$ <p> $\angle S = 26^\circ$ $\angle P = 72^\circ$ $\underline{SM} = 20$ $\underline{PM} = 9.2$ </p>	<p>9.</p> $\frac{\sin 25^\circ}{44} = \frac{\sin 75^\circ}{BG}$ $BG = 19.3$ <p> $\angle B = 80^\circ$ $\angle Z = 25^\circ$ $\underline{ZB} = 44$ $\underline{BG} = 19.3$ </p>

Name _____



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The Law of Sines

(Answer ID # 0193994)

Use the law of sines to find all of the unknown sides and angles in each triangle. Assume that all of the angles are acute.

<p>1.</p> <p>$\frac{\sin L}{98.4} = \frac{\sin 75}{104.4}$ $\angle L = 65.6$ $\angle P = 39.4$</p> <p>$\frac{\sin 75 \sin 39.4}{104.4} = \frac{\sin 75 \sin 75}{LD}$ $LD = 68.6$</p> <p>$\angle D = 75^\circ$ $PL = 104.4$ $PD = 98.4$</p>	<p>2.</p> <p>$\frac{\sin 74}{VK} = \frac{\sin 85}{75.7}$ $VK = 73.0$</p> <p>$\frac{\sin 21}{VX} = \frac{\sin 74}{73}$ $VX = 27.2$ $\angle V = 85$</p> <p>$\angle K = 21^\circ$ $\angle X = 74^\circ$ $XK = 75.7$</p>	<p>3.</p> <p>$\frac{\sin 75 \sin 41}{138.7} = \frac{\sin 41}{KD}$ $KD = 94.2$</p> <p>$\frac{\sin 75 \sin 64}{138.7} = \frac{\sin 64}{XD}$ $XD = 129.1$</p> <p>$\angle X = 41^\circ$ $\angle D = 75^\circ$ $XK = 138.7$ $\angle K = 64$</p>
<p>4.</p> <p>$\frac{\sin 55}{60.8} = \frac{\sin E}{73.5}$ $\angle E = 82.0$ $\angle S = 43$</p> <p>$\frac{\sin 43 \sin 55}{60.8} = \frac{\sin 55}{EU}$ $EU = 50.6$</p> <p>$\angle U = 55^\circ$ $SE = 60.8$ $SU = 73.5$</p>	<p>5.</p> <p>$\frac{\sin 82 \sin 59}{14.9} = \frac{\sin 59}{YJ}$ $YJ = 12.9$</p> <p>$\frac{\sin 82 \sin 39}{14.9} = \frac{\sin 39}{NJ}$ $NJ = 9.5$</p> <p>$\angle J = 82^\circ$ $\angle Y = 39^\circ$ $YN = 14.9$ $LN = 59$</p>	<p>6.</p> <p>$\frac{\sin 36}{48} = \frac{\sin R}{72}$ $\angle R = 61.8^\circ$</p> <p>$\frac{\sin 82.2 \sin 36}{48} = \frac{\sin 36}{RJ}$ $RJ = 80.9$</p> <p>$\angle J = 36^\circ$ $JS = 72$ $RS = 48$</p>
<p>7.</p> <p>$\frac{\sin 52 \sin 75}{26} = \frac{\sin 75}{ZM}$ $ZM = 31.87$</p> <p>$\frac{\sin 53 \sin 52}{MK} = \frac{\sin 52}{26}$ $MK = 26.4$</p> <p>$\angle K = 75^\circ$ $\angle Z = 53^\circ$ $KZ = 26$ $LM = 52$</p>	<p>8.</p> <p>$\frac{\sin 74 \sin 70.11}{98.3} = \frac{\sin 70.11}{V}$ $V = 44.5^\circ$ $\angle C = 61.5^\circ$</p> <p>$\frac{\sin 74 \sin 61.5}{98.3} = \frac{\sin 61.5}{UZ}$ $UZ = 89.9$</p> <p>$\angle Z = 74^\circ$ $UC = 98.3$ $ZC = 71.7$ $UZ = 89.9$</p>	<p>9.</p> <p>$\frac{\sin 81 \sin 42}{110.9} = \frac{\sin 42}{DA}$ $DA = 75.1$</p> <p>$\frac{\sin 81 \sin 57}{110.9} = \frac{\sin 57}{AS}$ $AS = 94.2$</p> <p>$\angle S = 42^\circ$ $\angle D = 57^\circ$ $SD = 110.9$ $LA = 81$</p>