| Law of sines | $\frac{a}{\sin A}=\frac{b}{\sin B}=\frac{c}{\sin c}$ |
| :--- | :--- |
| Law of cosines | $a^{2}=b^{2}+c^{2}-2 b c \cos A$ |
|  | $b^{2}=a^{2}+c^{2}-2 a c \cos B$ |
|  | $c^{2}=a^{2}+b^{2}-2 a b \cos C$ |
| Law of tangents | $\frac{a-b}{a+b}=\frac{\tan 1 / 2(A-B)}{\tan 1 / 2(A+B)}$ |


| Find | Given | Formula |
| :---: | :---: | :---: |
| A | BC | $180^{\circ}-(B+C)$ |
| $\sin A$ | acc | $\frac{a x \sin c}{c}$ |
| $\sin A$ | abB | $\frac{a \times \sin B}{b}$ |
| $\cos \mathrm{A}$ | abc | $\frac{b^{2}+c^{2}-a^{2}}{2 b c}$ |
| $\tan \mathrm{A}$ | acb | $\frac{a x \sin B}{C-(a \times \cos B)}$ |
| $\tan \mathrm{A}$ | abc | $\frac{a x \sin C}{b-(a \times \cos C)}$ |
| B | AC | $180^{\circ}-(A+C)$ |
| $\sin B$ | $a b A$ | $\frac{b \times \sin A}{a}$ |
| $\sin B$ | bcc | $\frac{b \times \sin c}{c}$ |
| $\cos \mathrm{B}$ | $a b c$ | $\frac{c^{2}+a^{2}-b^{2}}{2 a c}$ |
| $\tan B$ | bcA | $\frac{b x \sin A}{c-(b x \cos A)}$ |
| c | AB | $180^{\circ}-(A+B)$ |
| $\sin C$ | $a \subset A$ | $\frac{c x \sin A}{a}$ |


| Find | Given | Formula |
| :---: | :---: | :---: |
| $\sin C$ | bcB | $\frac{C x \sin B}{b}$ |
| $\cos \mathrm{C}$ | $a b c$ | $\frac{a^{2}+b^{2}-c^{2}}{2 a b}$ |
| $\tan \mathrm{C}$ | bca | $\frac{c x \sin A}{b-(c x \cos A)}$ |
| $\tan C$ | acB | $\frac{C x \sin B}{a-(C x \cos B)}$ |
| a | CAC | $\frac{C x \sin A}{\sin C}$ |
| a | bab | $\frac{b x \sin A}{\sin B}$ |
| a | bcA | $\sqrt{b^{2}+c^{2}-(2 b c \times \cos A)}$ |
| b | aAB | $\frac{a x \sin B}{\sin A}$ |
| b | CBC | $\frac{C x \sin B}{\sin C}$ |
| b | $a C B$ | $\sqrt{a^{2}+c^{2}-(2 b c \times \cos B)}$ |
| c | aAC | $\frac{a x \sin C}{\sin A}$ |
| c | bBC | $\frac{b x \sin C}{\sin B}$ |
| c | abc | $\sqrt{a^{2}+b^{2}-(2 a b \times \cos C)}$ |

