GEOMETRIC FORMULAE


| Key Legend |  |
| :--- | :--- |
| $l=$ length | $P=$ perimeter |
| $w=$ width | $C=$ circumference |
| $b=$ base | $A=$ area |
| $h=$ height | $S A=$ surface area |
| $s=$ slant height | $V=$ volume |
| $r=$ radius |  |
| $d=$ diameter |  |


| Geometric Figure | Perimeter | Area |
| :---: | :---: | :---: |
| Rectangle | $P=2 l+2 w$ <br> or $P=2(l+w)$ | $A=l w$ |
| Triangle | $P=a+b+c$ | $A=\frac{b h}{2}$ |
| Circle | $C=\pi d$ <br> or $C=2 \pi r$ | $A=\pi r^{2}$ |

Note: Use the value of $\pi$ programmed in your calculator rather than the approximation of 3.14 .

| Geometric Figure | Surface Area |
| :---: | :---: |
| Cylinder <br> $h$ | $\begin{aligned} & A_{\text {top }}=\pi r^{2} \\ & A_{\text {base }}=\pi r^{2} \\ & A_{\text {side }}=2 \pi r h \\ & S A=2 \pi r^{2}+2 \pi r h \end{aligned}$ |
| Sphere | $S A=4 \pi r^{2}$ <br> or $S A=\pi d^{2}$ |
| Cone | $\begin{aligned} & A_{\text {side }}=\pi r s \\ & A_{\text {base }}=\pi r^{2} \\ & S A=\pi r^{2}+\pi r s \end{aligned}$ |
| Square-Based Pyramid | $\begin{aligned} & \left.A_{\text {triangle }}=\frac{1}{2} b s \text { (for each triangle }\right) \\ & A_{\text {base }}=b^{2} \\ & S A=2 b s+b^{2} \end{aligned}$ |
| Rectangular Prism | $S A=w h+w h+l w+l w+l h+l h$ <br> or $S A=2(w h+l w+l h)$ |
| General Right Prism | $S A=$ the sum of the areas of all the faces |
| General Pyramid | $S A=$ the sum of the areas of all the faces |



Note: Use the value of $\pi$ programmed in your calculator rather than the approximation of 3.14 .

