Grade 9 Formula Sheet

Pythagorean Theorem

$a^2 + b^2 = c^2$, where *c* is the length of the hypotenuse

Area, Volume, Surface Area*:* for ALL calculations on the test using π, *always use* **$\pi = 3.14$**

Area of a **circle** with radius r:

$$A = \pi r^2$$

Area of a **triangle** with base *b* and height *h*:

$$A = \frac{1}{2}bh$$

Volume of **Prism**:

Volume = area of base x height of the prism

Volume of **Pyramid**:

Volume = $\frac{1}{3} \times$ (the volume of the enclosing prism)

Volume of **Cylinder** with height *h* and radius *r*:

$$V = \pi r^2 h$$

Volume of **Cone** with height *h* and radius *r*:

$$V = \frac{1}{3}\pi r^2 h$$

Volume of **Sphere** with radius *r*:

$$SA = \frac{4}{3}\pi r^3$$

Surface Area of **Cylinder** with height *h* and radius *r*

$$SA = 2\pi rh + 2\pi r^2$$

Surface Area of a **Cone** with radius *r* and slant height *s*:

$$SA = \pi rs + \pi r^2$$