

## Mathematics II Formula Sheet

Below are the formulas you may find useful as you work the problems. However, some of the formulas may not be used. You may refer to this page as you take the test.

### Area

Rectangle/Parallelogram  $A = bh$

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

Circle  $A = \pi r^2$

### Circumference

$C = \pi d$   $\pi \approx 3.14$

### Volume

Rectangular Prism/Cylinder  $V = Bh$

Pyramid/Cone  $V = \frac{1}{3}Bh$

Sphere  $V = \frac{4}{3}\pi r^3$

### Surface Area

Rectangular Prism  $SA = 2lw + 2wh + 2lh$

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

Sphere  $SA = 4\pi r^2$

### Trigonometric Relationships

$\sin(\theta) = \frac{\text{opp}}{\text{hyp}}$ ;  $\cos(\theta) = \frac{\text{adj}}{\text{hyp}}$ ;  $\tan(\theta) = \frac{\text{opp}}{\text{adj}}$

### Quadratic Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Standard Form  $ax^2 + bx + c = y$

Vertex Form  $a(x - h)^2 + k = y$

### Mean Absolute Deviation

$$\frac{\sum_{i=1}^N |x_i - \bar{x}|}{N}$$

the average of the absolute deviations from the mean for a set of data

### Population Standard Deviation

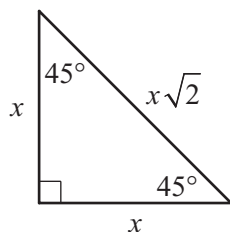
$$\sigma = \sqrt{\frac{\sum_{i=1}^N (x_i - \bar{x})^2}{N}}$$

### Sample Standard Deviation

$$S = \sqrt{\frac{\sum_{i=1}^N (x_i - \bar{x})^2}{N - 1}}$$

### Special Right Triangles

45°–45°–90° Triangle



30°–60°–90° Triangle

