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# EVERETT STEEL COMPANIES

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## GEOMETRIC FORMULAS

### CIRCLE

$$\text{AREA} = \text{Square of Diameter} \times .7854$$
$$\text{or Square of Radius} \times 3.1416$$

$$\text{CIRCUMFERENCE} = \text{Diameter} \times 3.1416$$

$$\text{DIAMETER} = \text{Circumference} \times .3183$$

Doubling diameter increases area four times; tripling diameter increases area nine times.

### CONE

$$\text{AREA OF CURVED SURFACE} = \text{Diameter of Base} \times \text{Slant Height} \times 1.5708$$

$$\text{VOLUME} = \text{Diameter of Base Squared} \times \text{Perpendicular Height} \times .2618$$
$$\text{or Area of Base} \times 1/3 \text{ Perpendicular Height}$$

### CUBE

$$\text{AREA OF SURFACE} = \text{Square of Side} \times 6$$

$$\text{VOLUME} = \text{Cube of Side}$$

$$\text{DIAGONAL} = \text{Side} \times 1.732$$

### CYLINDER

$$\text{AREA OF CURVED SURFACE} = \text{Diameter} \times \text{Length} \times 3.1416$$

$$\text{VOLUME} = \text{Square of Diameter} \times \text{Length} \times .7854$$

### HEXAGON

$$\text{AREA} = \text{Square of Distance across Flats} \times .866$$
$$\text{or Square of Side} \times 2.598$$

$$\text{SIDE} = 1/2 \text{ of Diagonal}$$
$$\text{or Distance across Flats} \times .577$$

$$\text{DIAGONAL} = \text{Distance across Flats} \times 1.155$$
$$\text{or Side} \times 2$$

### OCTAGON

$$\text{AREA} = \text{Square of Distance across Flats} \times .828$$
$$\text{or Square of Side} \times 4.828$$

$$\text{SIDE} = \text{Diagonal} \times .383$$
$$\text{or Distance across Flats} \times .414$$

$$\text{DIAGONAL} = \text{Distance across Flats} \times 1.082$$
$$\text{or Side} \times 2.613$$

### PYRAMID

$$\text{LATERAL SURFACE AREA (not incl. base)} = \text{Perimeter of Base} \times 1/2 \text{ Slant Height}$$

$$\text{VOLUME} = \text{Area of Base} \times 1/3 \text{ Perpendicular Height}$$

### RECTANGLE

$$\text{AREA} = \text{Length} \times \text{Width}$$

$$\text{DIAGONAL} = \text{Square root of sum of squares of Width and Length}$$

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## GEOMETRIC FORMULAS *(Continued)*

### SPHERE

AREA OF SURFACE = Square of Diameter  $\times$  3.1416

VOLUME = Cube of Diameter  $\times$  .5236

Holds the largest volume possible for the smallest surface.

### SQUARE

AREA = Square of Side

DIAGONAL = Side  $\times$  1.4142

SIDE = Diagonal  $\times$  .7071

### SQUARE AND CIRCLE OF EQUAL AREA

SIDE OF SQUARE = Diameter of Circle  $\times$  .8862

DIAMETER OF CIRCLE = Side of Square  $\times$  1.128

CIRCUMFERENCE OF CIRCLE = Side of Square  $\times$  3.545

### SQUARE INSCRIBED IN CIRCLE

SIDE OF SQUARE = Diameter of Circle  $\times$  .7071

or Circumference of Circle  $\times$  .2251

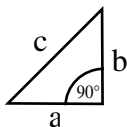
DIAMETER OF CIRCLE = Side of Square  $\times$  1.4142

CIRCUMFERENCE OF CIRCLE = Side of Square  $\times$  4.4429

### TRIANGLE

AREA = Base  $\times$  1/2 of Perpendicular Height

180° = Sum of all inside angles



$$a^2 + b^2 = c^2$$