

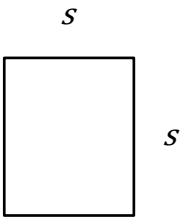
GEOMETRIC FORMULAS

➤ SHAPES

1. Square

Perimeter: $P = 4s$ or $2s + 2s$

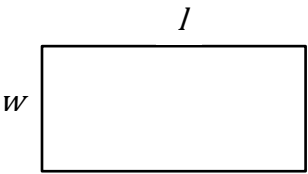
Area: $A = s^2$



2. Rectangle

Perimeter: $P = 2w + 2l$

Area: $A = l \cdot w$



3. Triangles

Perimeter: $P = a + b + c$

Area: $A = \left(\frac{1}{2}\right) \times b \times h$ or $\frac{bh}{2}$

- Types of triangle

- a) Isosceles – two equal sides

- b) Equilateral – all sides are equal

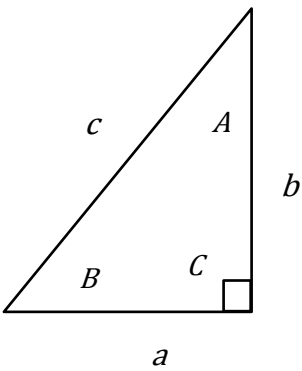
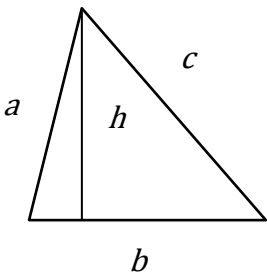
- c) Right – one 90° or right angle

- Pythagorean Theorem (for right triangles only):

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

- Sum of all angles (all triangles):

$$A + B + C = 180^\circ$$

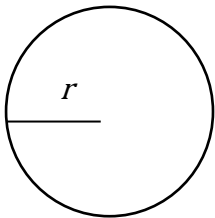


4. Circle

Diameter: $d = 2r$

Circumference: $C = 2\pi r$ or πd

Area: πr^2

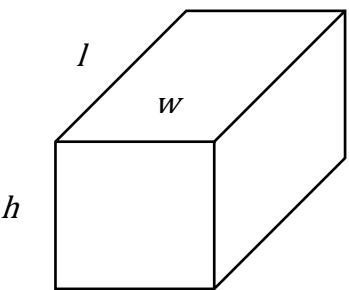


5. Rectangular Solid

Volume: $v = l \times w \times h$

Surface Area: $s = (2 \times h \times w) + (2 \times l \times h) + (2 \times l \times w)$

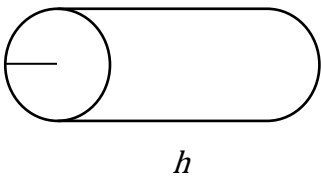
$$s = 2hw + 2lh + 2lw$$



6. Right Circular Cylinder

Volume: $v = \pi r^2 h$

Surface Area: $s = 2\pi r h + 2\pi r^2$



➤ ANGLES

1. Complementary Angles

- ✓ Two angles are complementary if the sum of their measures is 90° .
- ✓ $\angle A + \angle B = 90^\circ$, therefore $\angle A$ and $\angle B$ are complementary

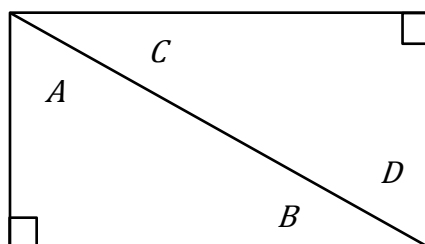


Figure 1.1

2. Supplementary Angles

- ✓ Two angles are supplementary if the sum of their measures is 180°
- ✓ $\angle 1$ and $\angle 2$ are supplementary angles.
- ✓ $\angle 2$ and $\angle 4$ are supplementary angles.

3. Opposite/Vertical Angles

- ✓ The intersection of two lines, m_1 and m_2 , form four angles. Opposite (vertical) angles are congruent (have equal measures)
- ✓ $\angle 1$ and $\angle 4$ are congruent.
- ✓ $\angle 2$ and $\angle 3$ are congruent.

4. Alternate Interior and Exterior Angles

- ✓ Lines m_1 and m_2 are parallel.
- ✓ $\angle 4$ and $\angle 5$ are called alternate interior angles. Alternate interior angles are congruent.
- ✓ $\angle 1$ and $\angle 8$ are called alternate exterior angles. Alternate exterior angles are congruent.

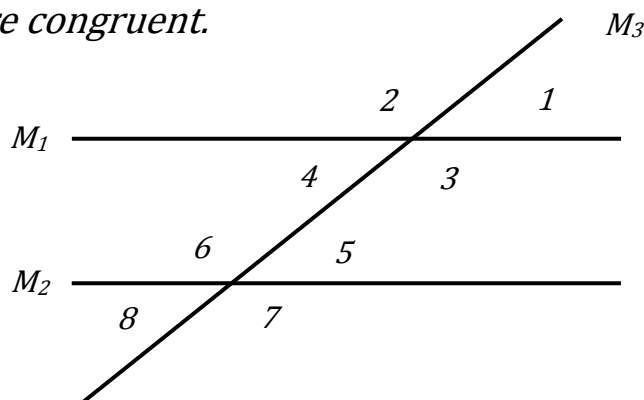


Figure 2.1. For numbers 2, 3 & 4

5. Straight Lines

- ✓ *Straight lines have degrees measuring 180° .*
- ✓ *If D to B is a straight line then $\angle DBC$ measures 180°*

