1.5 - Formulas in Geometry

1) Use of Learning Targets Sheet

2) Assignment Update and Quiz 1.4

3) Notes 1.5 : Formulas

4) Assignment Time

5) Class Close : Books and Grades

Mathematical Problems:

- \( 3x - 4 + 5x + 6 = 90 \)
- \( 8x + 2 = 90 \)
- \( 6x = \frac{88}{8} \)
- \( x = 11 \)

Angles:

- \( 29^\circ \)
- \( 61^\circ \)
- \( 48^\circ \)
- \( 132^\circ \)
- \( 180^\circ \)
- \( 48^\circ \)
Geometric Measures

**Perimeter**
- sum of all the side lengths of a figure

**Calculation:** Add them all up!!

**Area**
- number of non-overlapping square units that cover a figure

**Calculation:** Depends on the Shape

**Rectangular**
\[ A = lw \]

**Triangular**
\[ A = \frac{1}{2}bh \]

---

**Example #1**
Find the area and perimeter of each figure

- **Rectangle**
  \[ P = 4\text{ in} + 4\text{ in} + 6\text{ in} + 6\text{ in} = 20\text{ in} \]
  \[ A = lw = (4\text{ in})(6\text{ in}) = 24\text{ in}^2 \]

- **Triangle**
  \[ P = 6 + 5x + x + 4 = 6x + 10 \text{ units}^2 \]
  \[ A = \frac{1}{2}bh = \frac{1}{2}(6)(x+4) = 3(x+4) \text{ units}^2 \]
Circle Parts

- be able to identify these parts of a circle:
  - diameter
  - radius
  - circumference

\[ d = 2r \]

**Measurements**

Perimeter - a circle has no segments so perimeter can’t happen

Circumference = \( 2\pi r \) or \( d\pi \)

Area = \( \pi r^2 \)

**Example #2**

Find the area and circumference of a circle with radius of 8 cm. Round your answers to the nearest tenth.

Circumference:

\[ C = 2\pi r \]
\[ C = 2\pi (8\text{ cm}) \]
\[ C = 16\pi \text{ cm} \]
\[ C = 50.3 \text{ cm} \]

Area:

\[ A = \pi r^2 \]
\[ A = \pi (8\text{ cm})^2 \]
\[ A = 64\pi \text{ cm}^2 \]
\[ A \approx 201.1 \text{ cm}^2 \]
Assignment (Due Tuesday 9/16)

1) Pg. 38, #10-17, 19-24, 26, 33-35, 38, 41

2) Do Learning Target Problems 1.1 - 1.5

3) Do you need help right now?? (Test in 1 week)