Worksheet 3-1: Right Triangles and Trigonometric Ratios
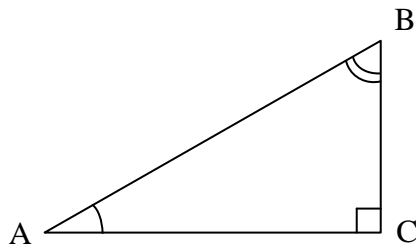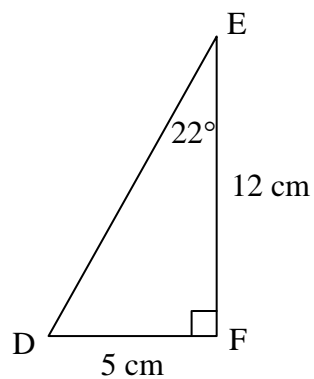
Properties of Right Triangle:

1. **Sum of Triangle Theorem**

2. **Complimentary Angles**

3. **Pythagorean Theorem:** $a^2 + b^2 = c^2$

    C **is the hypotenuse which is** _____.

Practice:
1. Find the unknown angle and side of ΔDEF.

 Assigned Work: WS 3-1; Handout "Finding Trigonometric Ratios"

Trigonometric Ratios

A branch of mathematics called trigonometry is used to calculate triangle measures. A trigonometric ratio is the ratio of the lengths of two sides in a **right triangle**.

When working with right triangles to find trigonometric ratios, the sides are given **special names** in relation to the acute angle being considered: hypotenuse, opposite side and adjacent side.
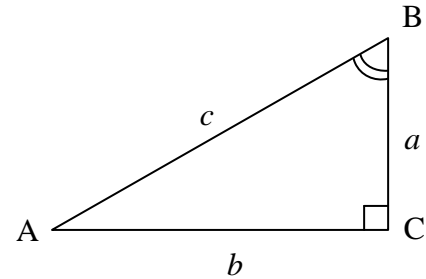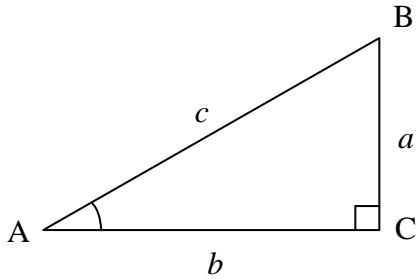
For $\angle A$:

Hypotenuse =

Opposite Side =

Adjacent Side =

For $\angle B$:

Hypotenuse =

Opposite Side =

Adjacent Side =

There are 3 Trigonometric Ratios: (SOH CAH TOA)

1. **Sine Ratio**

    $\sin A = $ ————————————— $\sin B = $ ———————————————

    $= $ —— $= $ ——

2. **Cosine Ratio**

    $\cos A = $ ———————————— $\cos B = $ ——————————————

    $= $ —— $= $ ——

3. **Tangent Ratio**

    $\tan A = $ ————————————— $\tan B = $ ——————————————

    $= $ —— $= $ ——