Welcome back: Please try your warm up at your desk.

Warm-up

Solve for x

$2x + 3 + x - 12 = 90$ $X = 33$

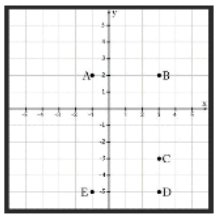
Notebook Set-up

Definitions and Relationships

Point:

- An exact location. It has no size, only position.

Example:

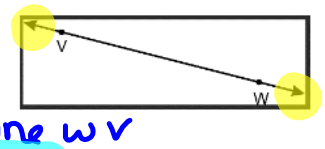


Line:

The path of a point moving in opposite directions infinitely. A line has neither width nor thickness but length. It is the shortest distance between two points.

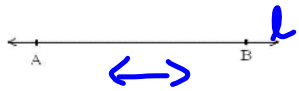
Example:

$\overleftrightarrow{VW}$ or $\overleftrightarrow{WV}$



Line v w or line w v

Name the given line.



$\overleftrightarrow{BA}$ $\overleftrightarrow{AB}$ l

Line Segment:

Part of a line between two points called endpoints.

Example:

$\overline{CD}$ or $\overline{DC}$

Name as many segments as possible.

$\overline{AB}$ $\overline{AD}$ $\overline{AC}$ $\overline{BD}$ $\overline{CD}$ $\overline{BC}$

Ray:

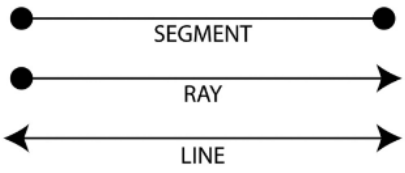
Also called half-line. A straight line extends from a point.

Example:

$\overrightarrow{AB}$

$\overrightarrow{AB}$

Summary:



Equal:

The same in size, value, or amount.

Example:

equal sign

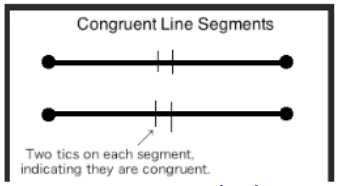
$9 + 14 = 23$

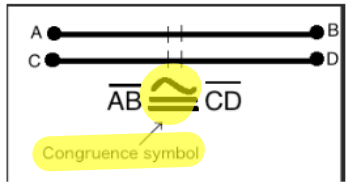
$AB = \#$

Congruent:

Planar figures or solid shapes that have the same shape and size.

Examples:





line $\overleftrightarrow{AB}$

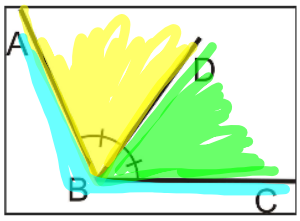
$\overline{AB}$

Angle:

$\angle ABD \cong \angle CBD$ $m\angle ABD = m\angle CBD$

The amount of turn between two straight lines that have a common endpoint (the vertex).

Problem: Name the three angles given.



$\angle$ ← Symbol for angle

Middle letter is vertex

$\angle ABD$ $\angle DBA$

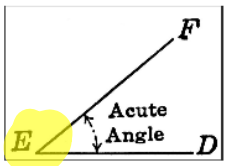
$\angle CBD$ $\angle DBC$

$\angle ABC$ $\angle CBA$

Acute Angle:

An angle with a measure between 0° and 90°.

Example: Name the one angle three different ways.



$\angle E$

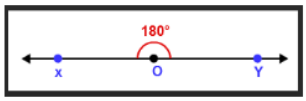
$\angle FED$

$\angle DEF$

Straight Angle:

An angle whose measure is 180°.

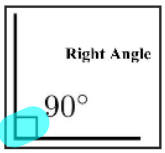
Example:



Right Angle:

An angle that measures 90°.

Example:

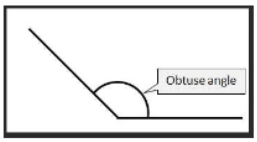


not Right

Obtuse Angle:

An angle that is between 90° and 180°.

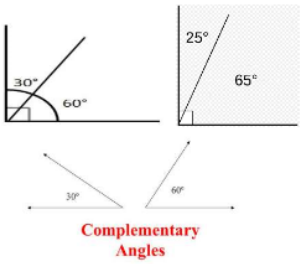
Example:



Complementary Angle:

A pair of angles that add up to 90°.

Examples:



Problems with complementary angles.

An angle is 18 degrees less than the measure of its complement. Find the measure of the angle.

$\angle 1 = x$

$\angle 2 = x - 18$

$m\angle 1 + m\angle 2 = 90$

$x + x - 18 = 90$

$2x - 18 = 90$

$+18 \quad +18$

$\frac{2x}{2} = \frac{108}{2}$

$x = 54$

$m\angle 1 = 54$

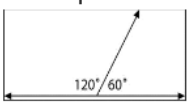
$m\angle 2 = 36$

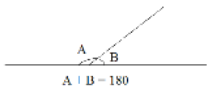
$54 - 18$

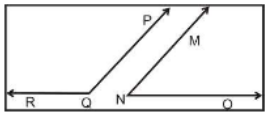
Supplementary Angles:

Two angles that add up to 180°.

Examples:







Problems with supplementary angles.

The measurement of the supplement of an angle is 39° more than half the angle. Find the measurement of the angle and its supplement

$\angle 1 = x$

$\angle 2 = \frac{1}{2}(x+39)$

$x + \frac{1}{2}(x+39) = 180$

$x + \frac{1}{2}x + 19.5 = 180$

$1.5x + 19.5 = 180$

$1.5x = 160.5$

$x = 107$

180 − 107 = 73

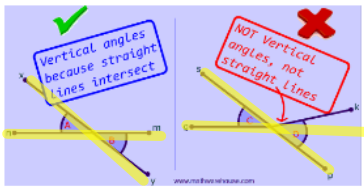
$m\angle 1 = 107°$

$m\angle 2 = 73°$

Vertical Angles:

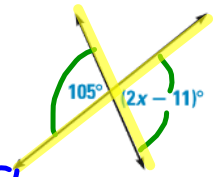
The pair of angles opposite each other formed by two intersecting lines.

Example:



*Vertical angles are Congruent

Problem: Find the value of x.



$2x - 11 = 105$

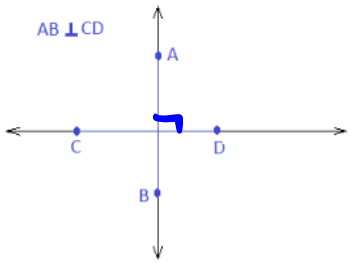
$+11 \quad +11$

$\frac{2x}{2} = \frac{116}{2}$

$x = 58°$

Perpendicular:

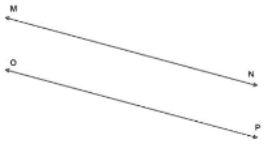
Two lines that intersect at right angles.



Parallel:

Two or more straight coplanar lines that do not intersect.

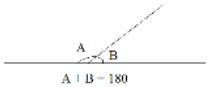
Example: $\overleftrightarrow{MN} \parallel \overleftrightarrow{OP}$



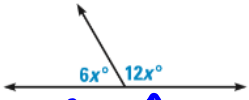
Linear Pair:

Two angles that are adjacent (share a leg) *and supplementary* (add up to 180°)

Example:



Problem: Find the value of x, and the value of each angle.



$6x + 12x = 180$

$\frac{18x}{18} = \frac{180}{18}$

$x = 10$

$6x = 60°$

$12x = 120°$

Practice at the boards:

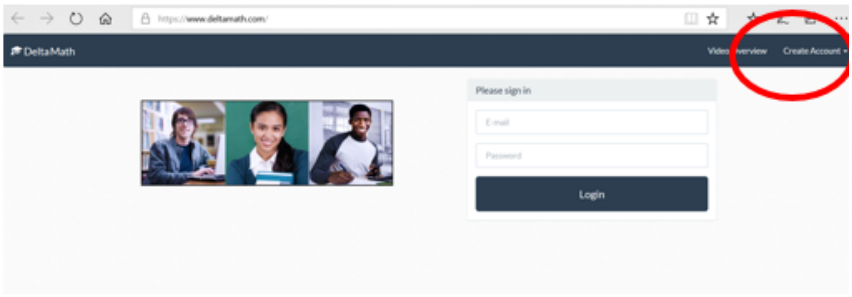
Take a sheet of paper and try each problem on the boards posted.

Check with me for the answers

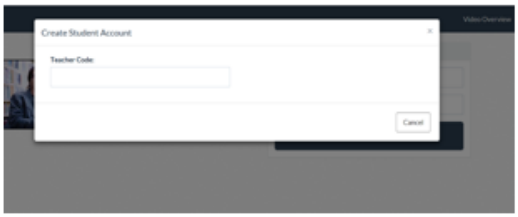
Delta math sign-ups

Directions:

1. Go to www.deltamath.com
2. Click on create account in the upper right hand corner



3. Select student



4. Enter in my code: 396714 and the screen to the right will appear

5. Fill in the information- be sure to choose the correct class.