

# 7.1 Basic Geometry Shapes

---

with Introduction to Parallel & Perpendicular Lines

Standards:

---

G.CO.1

---

G.CO.4

---

---

---

---



# [Old] Basic Geometry Lines

1. Point - An exact location in space, represented by a dot.

Example  $\cdot$  K

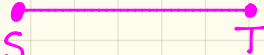
2. Line - A straight path in a plane that goes on forever in opposite directions.

Example  Symbol  $\overleftrightarrow{MK}$

3. Ray - A part of a line with one endpoint that continues without end in one direction.

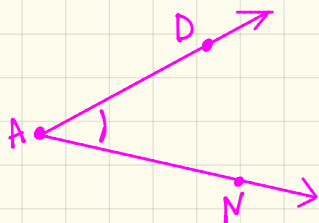
Example  Symbol  $\overrightarrow{CB}$

4. Line Segment - A part of a line segment that includes 2 endpoints.

Example  Symbol  $\overline{ST}$

5. Angle - A figure formed by 2 rays that have a common endpoint.

Example



Symbol  $\angle A$ ,  $\angle DAN$   
 $\angle NAD$

# Types of Angles

## ① Acute Angles

angle measures less than  $90^\circ$

## ② Right Angle

angle measures exactly  $90^\circ$ .

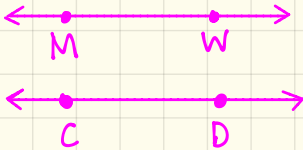
## ③ Obtuse Angles

angle measures between  $90^\circ$  and  $180^\circ$ .

## new Parallel & Perpendicular Lines

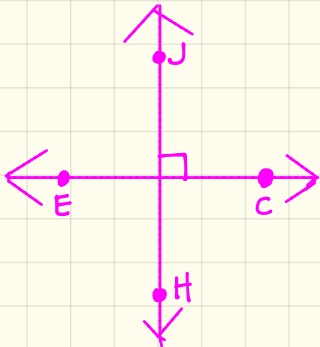
Parallel Lines - lines in a plane that NEVER intersect.

### Example



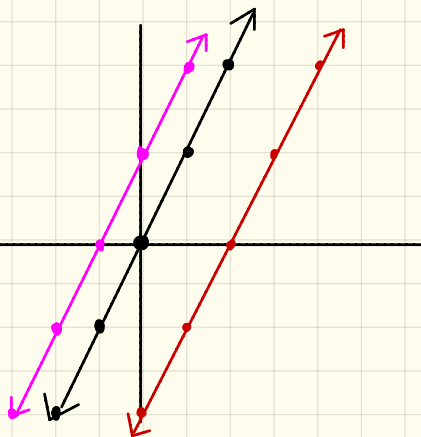
Symbol  $\overleftrightarrow{MW} \parallel \overleftrightarrow{CD}$

Perpendicular Lines - Two lines that intersect to form 4 right angles.



Symbol  $\overleftrightarrow{JH} \perp \overleftrightarrow{EC}$

Let's consider the equation:  $y = 2x$ . Draw the line.

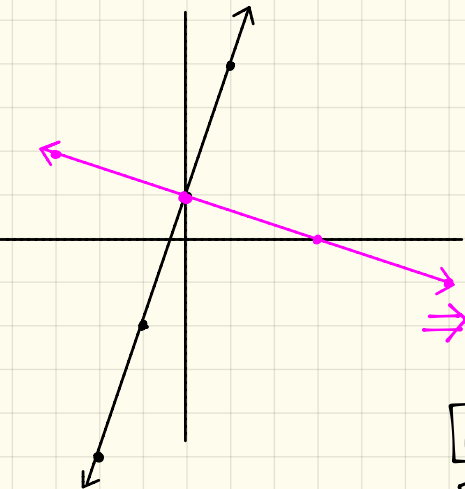


- Draw  $y = 2x + 2 \rightarrow m = \frac{2}{1}, b = 2$
- Draw  $y = 2x - 4 \rightarrow m = \frac{2}{1}, b = -4$

**Conclusion**

Parallel Lines on a coordinate plane have the same slope.

Let's consider the equation:  $y = 3x + 1$ . Draw the line.



What happens when we rotate this line  $90^\circ$ ?

- became negative (opposite sign)
  - reciprocal version of slope
- $\Rightarrow$  new slope is  $-\frac{1}{3}$ .

**Conclusion**

Perpendicular Lines on a coordinate plane have opposite sign reciprocal slopes.

Let's talk about angles:

