# LEARNING GOALS

- SWBAT:
  - use the laws of sines and cosines to determine the area of irregular quadrilaterals.

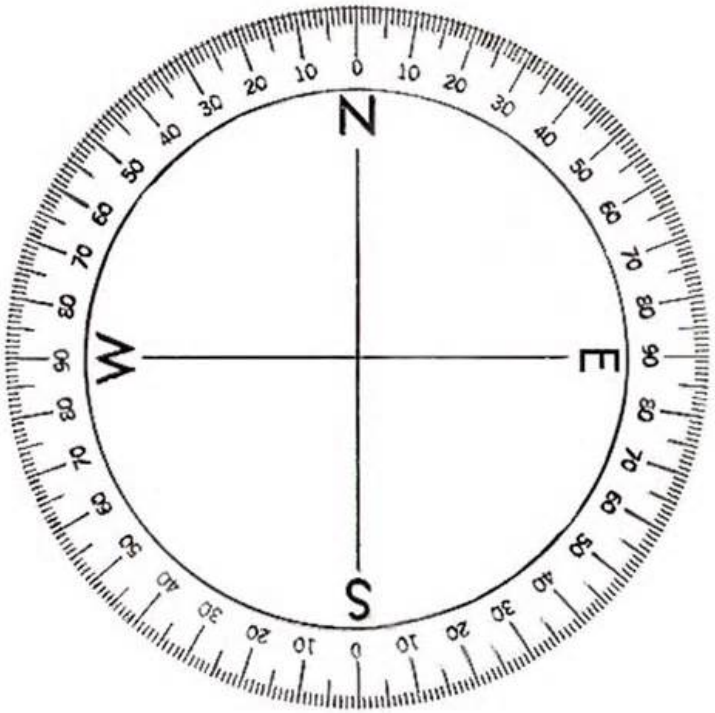
# ESSENTIAL QUESTION

- How do you use trigonometry to solve and find the areas of irregular quadrilaterals?

# CLASS AGENDA

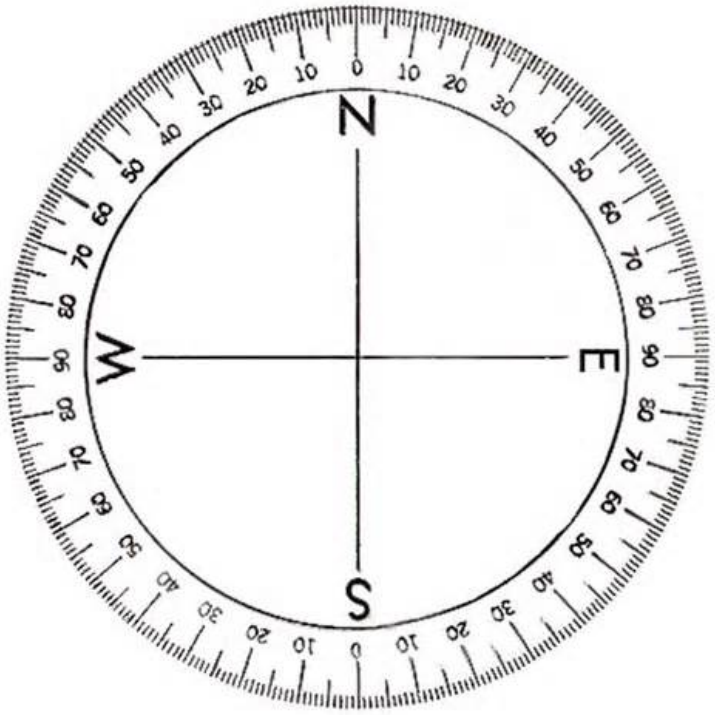
- Bearings
  - With direction
  - Without direction
- Break
- Small group practice
- Closure
- Homework

# BEARING WITH DIRECTION




- Dominant directions
  - North
  - South
- Secondary directions
  - East
  - West

# BEARING WITH DIRECTION




- Measure FROM the dominant direction to the secondary direction

1. $N30°E$
2. $N45°W$
3. $S60°E$
4. $S30°W$
5. Due North
6. Due South
7. Due East
8. Due West

# EXAMPLE 1

- Very often a plot of land is taxed according to its area. Sketch the plot of land described. Then find its area.

- From a granite post, proceed 195 ft east along Tasker Hill Road, then along a bearing of S32°E for 260 ft, then along a bearing of S68°W for 385 ft, and finally along a line back to the granite post.

# BREAK

# BEARING WITHOUT DIRECTION

- FROM NORTH CLOCKWISE

# BEARING WITHOUT DIRECTION


1. Course of 110°
2. Course of 30°
3. Course of 330°
4. Course of 215°

# EXAMPLE 2

- A ship proceeds on a course of 300° for 2 hours at a speed of 15 knots (1 knot = 1 nautical mile per hour). Then it changes course to 230°, continuing for 3 more hours. At that time, how far is the ship from its starting point?

- Make a diagram and solve.

# BREAK

# SMALL GROUP PRACTICE

- Complete worksheet

# CLOSURE

# CLOSURE

- How do you use trigonometry to solve and find the areas of irregular quadrilaterals?

# HOMEWORK

- Finish the worksheet