#### Warmup 2/ (The measure of an angle that is vertical to a 6° angle) Created by Mr. Lischwe

Put the values in order from least to greatest. Show at least a little work for each value.

A: 
$$\frac{2}{5}$$
 B. $\frac{3}{7}$  C. $\frac{4}{9}$  D. $\frac{3}{8}$  E. $\frac{32}{100}$ 

\*\*\*Please make sure your desk has ONE whiteboard, ONE marker, and ONE eraser inside. If it has more than that, put the extras back!\*\*\*

#### COLLECT BROWN ANGLE BASICS WORKSHEET (MAKE SURE THERE IS A SCORE!)

#### Table of Contents (2<sup>nd</sup> Semester)

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#### Angles formed by Parallel Lines

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#### **Objectives:**

- Given one angle measure, find ALL angles formed by 2 parallel lines
- Identify special angle pairs
- Use special angle pair rules to find angle measures

 Two angles that are in the same "position" but on different lines are called <u>corresponding</u>.



• If the lines are parallel, these angles will be congruent!!!



 One angle measure is given. On your whiteboard, find the measures of ALL other angles.



 $m \angle 1 = 82^{\circ}$   $m \angle 2 = 98^{\circ}$   $m \angle 3 = 82^{\circ}$   $m \angle 4 = 98^{\circ}$   $m \angle 5 = 98^{\circ}$   $m \angle 6 = 82^{\circ}$  $m \angle 7 = 82^{\circ}$ 



# New terminology

- Which angles would you say are **interior** angles?
- Which angles would you say are **exterior** angles?



# Copy into binder (with diagram):

- Alternate Interior: ∠4 and ∠5, ∠3 and ∠6
- **Same-side Interior:**  $\angle 3$  and  $\angle 5$ ,  $\angle 4$  and  $\angle 6$
- **<u>Alternate Exterior</u>**: ∠1 and ∠8, ∠2 and ∠7
- Corresponding: 21 and 25,22 and 26, 23 and 27,24 and 28





# Hints to help remember:

- Alternate Interior Angles: Form a "Z"
- Same-side interior: Form a "C" or "U"
- Alternate Exterior: Sort of like vertical angles, but separated more
- Corresponding Angles: The ones in "matching" positions. Bottom left → bottom left











# Which type of angle? **Vertical** ₳



# Corresponding







2

# **Same-side** interior



# Which type of angle? Corresponding 2





## Alternate Interior





Vertical









# Alternate Interior



# Which type of angle? Corresponding





# Which type of angle? Same-side interior





# Which type of angle? Corresponding









0

0

# IN YOUR BINDER:

### • WHEN THE LINES ARE PARALLEL:

- Alternate Interior: congruent
- (Leave 3 more lines)







0

0

# IN YOUR BINDER:

## • WHEN THE LINES ARE PARALLEL:

- Alternate Interior: congruent
- Alternate Exterior: congruent

# Find the given angle measure.

### Find the given angle measure. If the lines are **130**° 2 parallel, same-side interior angles will always be supplementary to each other. 6 4

0

# IN YOUR BINDER:

# • WHEN THE LINES ARE PARALLEL:

- Alternate Interior: congruent
- Alternate Exterior: congruent
- Same-Side Interior: supplementary

• Remember, if the lines are parallel, <u>corresponding</u> angles are congruent.



# **INYOUR BINDER:** • WHEN THE LINES ARE PARALLEL: Alternate Interior: congruent Alternate Exterior: congruent Same-side Interior: supplementary

• Corresponding: congruent



If the measure of angle 1 is 30 degrees, what is the measure of angle 2? **HOW DOYOU KNOW?** 





If the measure of angle 1 is 45 degrees, what is the measure of angle 2? **HOW DOYOU KNOW?** 





If the measure of angle 1 is 25 degrees, what is the measure of angle 2? **HOW DOYOU KNOW?** 





If the measure of angle 1 is 115 degrees, what is the measure of angle 2? **HOW DOYOU KNOW**?

 $m \angle 2 = 115^{\circ}$ ; they

are corresponding



If the measure of angle 1 is 107 degrees, what is the measure of angle 2? **HOW DOYOU KNOW**?

 $m \angle 2 = 107^{\circ}$ ; they

are alternate interior



If the measure of angle 1 is 41 degrees, what is the measure of angle 2? **HOW DOYOU KNOW?** 





If the measure of angle 1 is 41 degrees, what is the measure of angle 2? **HOW DOYOU KNOW?** 





## Extra one...

If the measure of angle 1 is 40 degrees, what is the measure of angle 2? **HOW DOYOU KNOW?** 





# HOMEWORK

• Parallel Lines WS