

## Warmup 2/(# of touchdowns the Eagles scored yesterday) Created by Mr. Lischwe

\*\*\*Make sure you have a SMALL whiteboard, marker, and eraser inside your desk. No big whiteboards.\*\*\*

Solve these analogies. Fill in the blanks so that both pairs of items have the same relationship.

1. Basketball: orange :: golf ball: \_\_\_\_\_
2. Blake Shelton: country :: Drake: \_\_\_\_\_
3. Solid: melt :: liquid: \_\_\_\_\_
4. Skeptical: belief :: Liar: \_\_\_\_\_
5. 16:4 :: 36: \_\_\_\_\_
6. Addition: multiplication :: multiplication: \_\_\_\_\_

## Exponents & Scientific Notation Test

■ YOU CAN RETAKE INDIVIDUAL TASKS! (Don't miss this groundbreaking opportunity!)

■ Example of a great answer for Task 6 #1:

**Task 6 (3 points)** (1 point for a weak answer, 2 points for a decent answer, 3 points for a great answer)  
Choose one of the questions to answer. If you answer both, I will grade your best one.

**Question 1:** Suppose you have a friend who missed the lesson on how to take a power to a power. When trying to do  $(x^3)^4$ , the friend is not sure whether to do  $3 \times 4$ , or  $3 + 4$ , or  $3$  to the 4th power. Tell the friend which one is correct, and write a convincing explanation as to WHY this one is correct. Use expanding in your explanation.

**Question 2:** When converting  $4.56 \times 10^5$  into standard notation, you move the decimal to the right five times. When converting  $4.56 \times 10^{-5}$ , you move the decimal to the left five times. Write a detailed mathematical explanation for why these two "tricks" work.

**Handwritten Answer:**  
The correct way is: Ex.  $x^3 \cdot x^3 \cdot x^3 \cdot x^3 \cdot x^3 \cdot x^3$   
It's because when  $= x^3$   
you expand the power  
out, you'll see that it's  $x^3$  multiplied  
5 times, since we know to add the exponents when multiplying.  
Bonus Problems: the answer is  $x^5$  which is  $x^3 \times 2$ !

### Great Answers for Task 6 #2:

**Handwritten Answer 1:**  
These tricks work because when total in scientific notation there is a  $\times 10$  after the coefficient. When doing  $4.56 \times 10^5$ , what you are actually doing is multiplying  $4.56 \times 10 \times 10 \times 10 \times 10 \times 10$ , or moving the decimal right 5 places. When doing  $4.56 \times 10^{-5}$ , you are actually doing  $4.56 \div 10 \div 10 \div 10 \div 10 \div 10$ , or moving the decimal left 5 places. *Very nice*

**Handwritten Answer 2:**  
Excellent  
When trying  $4.56 \times 10^5$  you are multiplying  $4.56$  by  $10$  five times. Multiplying anything by  $10$  moves the decimal back to the right.  
 $12 \times 10 = 120$   
 $4.56 \times 10^5$  is the same concept except you are dividing by  $10$  five times. Dividing by  $10$  moves the decimal to the left.  
 $20 \div 10 = 2$   
is a single value.

## PLAN FOR THIS WEEK:

- Today: Basics of Angles
- Tuesday: Angles formed by Parallel Lines
- Wednesday: Angles of Triangles
- Thursday: Review
- Friday: Angles Quiz!!!

## Textbook Volume 2!!!

- Keep your volume 1 somewhere handy - we'll go back to it later.
- Anytime I tell you to bring your textbook now, it should be **VOLUME 2**.

### Table of Contents (2nd Semester)

p. 1	Exponent Basics (1.2)
p. 2	Multiplying and Dividing Powers (1.3)
p. 3	Power to a Power (1.4)
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p. 5	Scientific Notation (1.6)
p. 6	Calculating with Scientific Notation (1.7)
p. 7	Angle Basics

## Angle Basics

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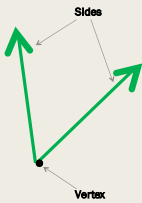
### Objectives:

- Name angles
- Estimate angle measures
- Measure angles with a protractor
- Classify angles
- Find complementary and supplementary angles
- Find missing angle measures in an "X"

## Brainstorm:

- What do we remember about angles???

## Parts of an angle

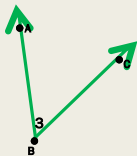


## Quick Question...

- How many angles are in this picture?
- How would I **name** each one?



## 4 ways to name this angle...



### NAMING ANGLES

- Use 3 letters – the middle letter **MUST** be the vertex
- May use 1 letter **ONLY** IF there's only one angle at that vertex

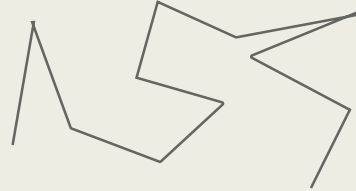
## Which angle is has a greater measure?



## 4 “Categories” of angles

- **Acute:** between 0 and 90 degrees
- **Right:** exactly 90 degrees
- **Obtuse:** between 90 and 180 degrees
- **Straight:** exactly 180 degrees
- (If I were you, I would put a picture representing each type too)
- By the way, an angle over 180 degrees is called a “reflex” angle

## Classify Each Angle:



## IMPORTANT GEOMETRY VOCAB

- Two angles that have the same measure are called

**CONGRUENT.**

- Symbol:  $\cong$

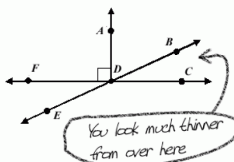
- **Adjacent Angles:** Share a side and vertex



- In the diagram, angles 1 and 2 are adjacent.

## Complementary Angles

3. Name an angle complimentary to BDC:



- **Complementary Angles** are two angles whose measures add up to 90°.
- **Supplementary Angles** are two angles whose measures add up to 180°.
- (They don't have to be adjacent!!!)

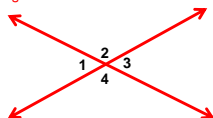
- What is the **complement** of a  $50^\circ$  angle?
- What is the **supplement** of a  $50^\circ$  angle?
- What is the **complement** of a  $27^\circ$  angle?
- What is the **supplement** of a  $102^\circ$  angle?
- What is the **supplement** of a  $155.5^\circ$  angle?
- What is the **complement** of a  $45^\circ$  angle?
- What is the **complement** of a  $95^\circ$  angle?

Find the missing angle measures:



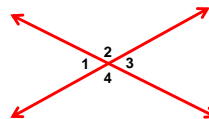
► **Vertical Angles:** Angles across from each other at the intersection of two straight lines.

► They are **always** congruent!!!



►  $\angle 1 \cong \angle 3$  and  $\angle 2 \cong \angle 4$

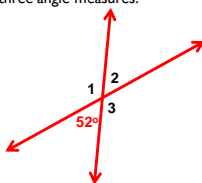
► Two angles that form a straight line will always be supplementary!



►  $m\angle 1 + m\angle 2 = 180^\circ$

### Example

► Find the other three angle measures.



### HOMEWORK

► Angle Basics Worksheet