Monday, August 13, 2012

TISK Problems

1) Find the area of a square with sides of 5 ft.
2) Find the area of a circle with a diameter of 5 ft. (Leave your answer in terms of π.)
3) Explain which figure (problem #1 or problem #2) has the greater area.

We will not have Mental Math Questions today.

Homework Check

18) True

19) False;
Sample: E is the midpoint of $\overline{HJ}$.

20) False
Sample: $\overline{AC}$ bisects $\overline{GI}$

21) True

22) True

23) True

33) 8; 60

35) 1; 1

37) 2; 6

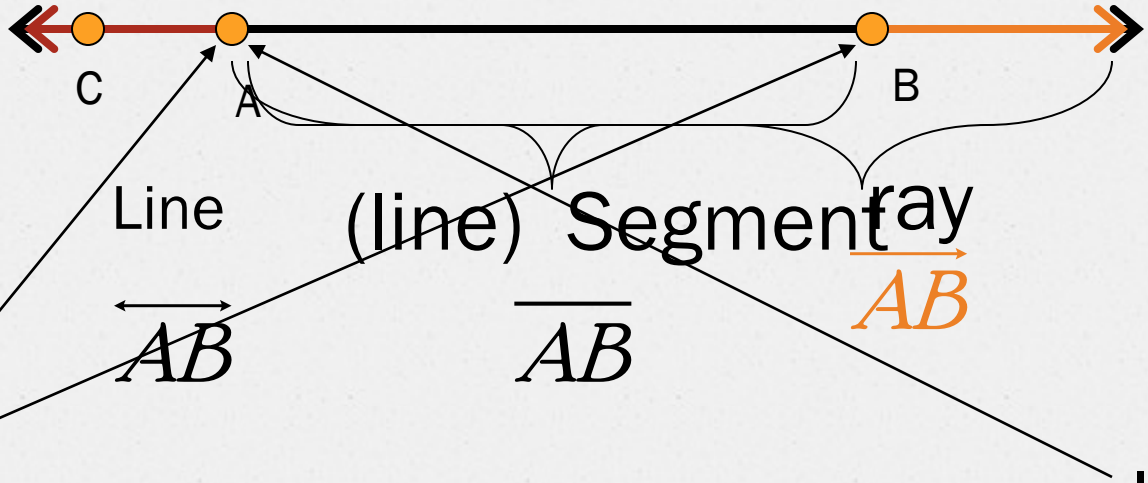
39) (drawings will be reviewed)

45) a-c. (drawings will be reviewed)

d. The perimeter of the larger triangle is twice the smaller triangle's.

e. The area of the larger triangle is 4 times that of the smaller triangle. (Explanations may vary.)

Exploring Angles

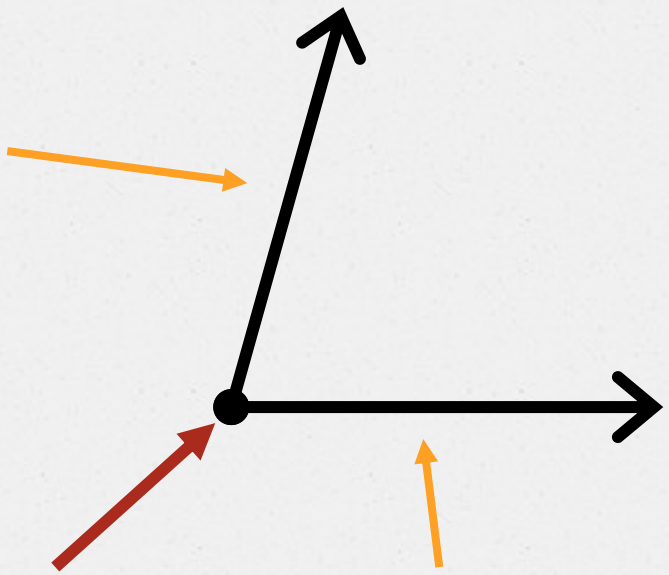


Opposite rays

$\overrightarrow{AB}$ and $\overrightarrow{AC}$

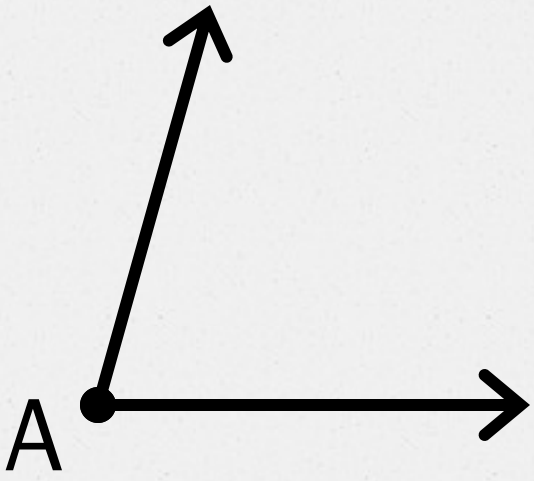
Exploring Angles

- Definitions
  - Angle: two different rays that have the same initial point.
  - Sides of an Angle: the rays that make the angle
  - Vertex: the initial point for both rays



Naming Angles

- If there is only one angle with a particular vertex, the name of that point can also name the angle…

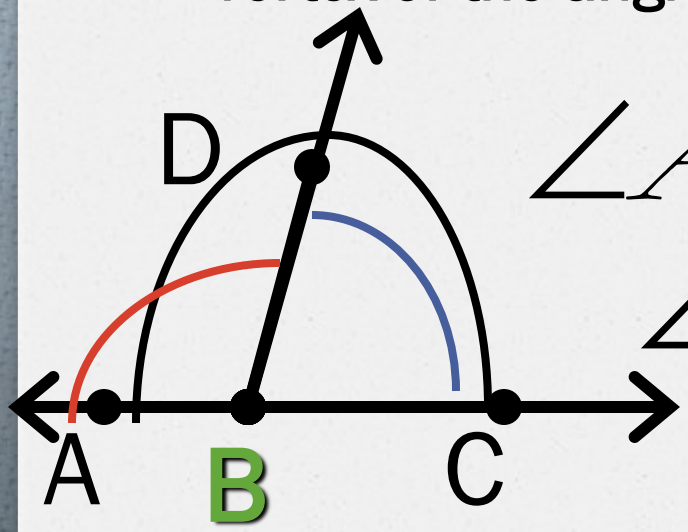


$\angle A$

$\measuredangle A$

Naming Angles

- If there is more than one angle at a vertex, three points are used to identify the angle.
- The three points "trace" the angle out. One point is on each ray and one point is the vertex.
- The middle letter in ANY angle name is the vertex of the angle.



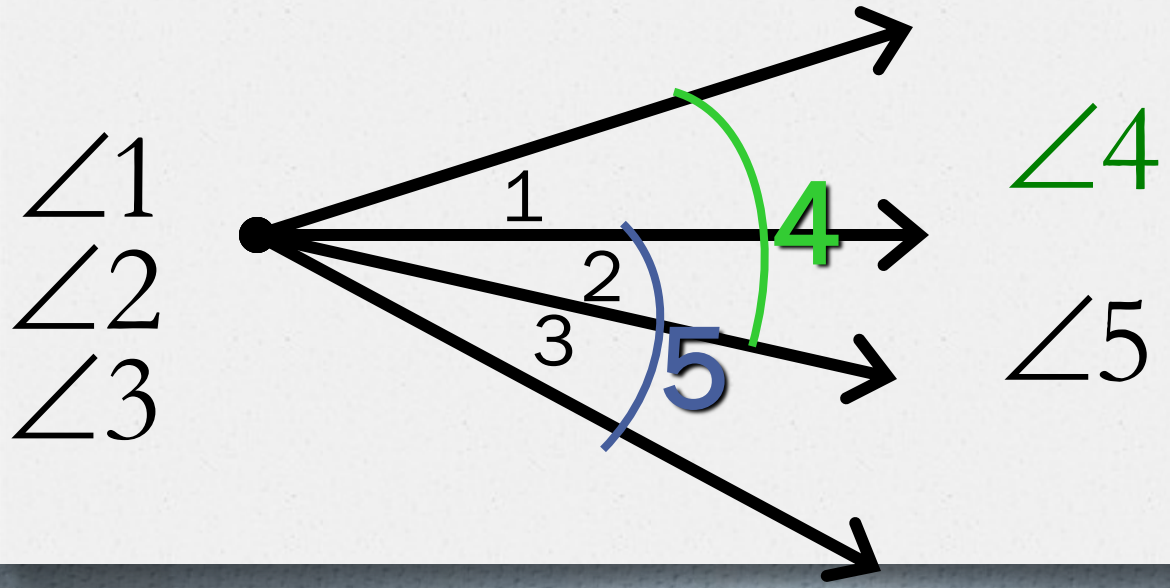
$\angle ABC$ $\angle CBA$

$\angle ABD$ $\angle DBA$

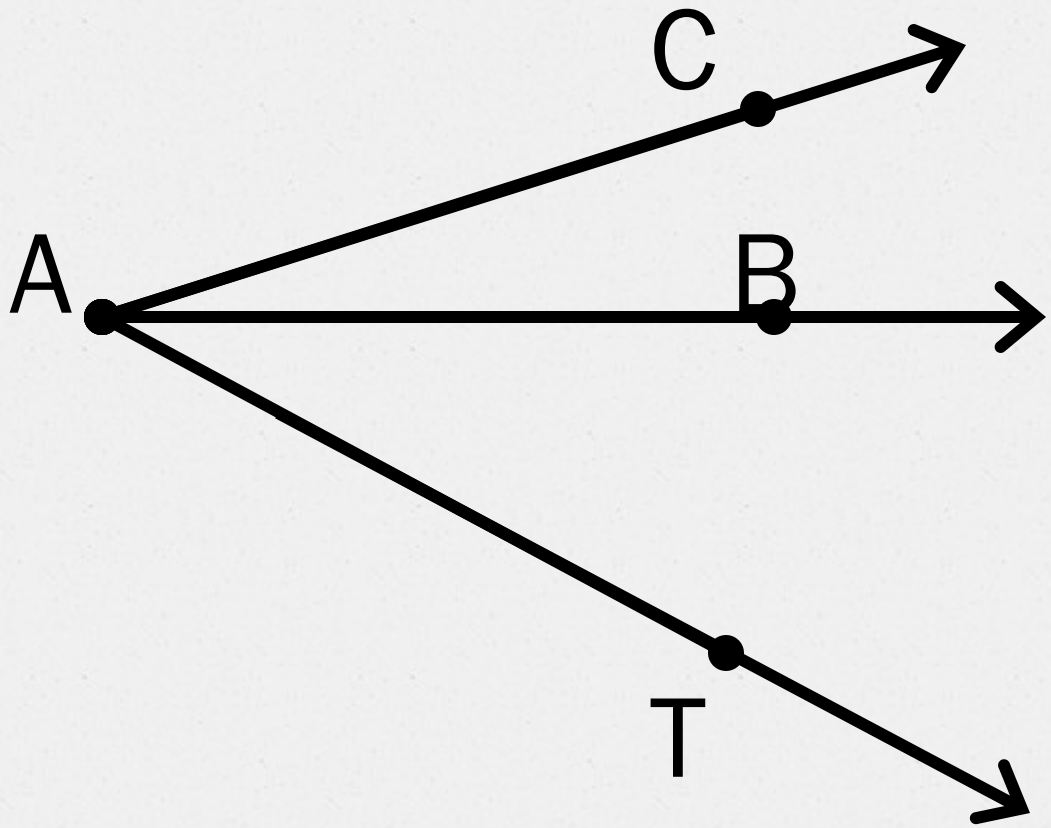
$\angle DBC$ $\angle CBD$

Naming Angles

- Sometimes, for simplicity's sake, we will simply number the angles. This is done by writing a number on the interior of the angle, near the vertex:



Check Point: Name the angles in the figure.

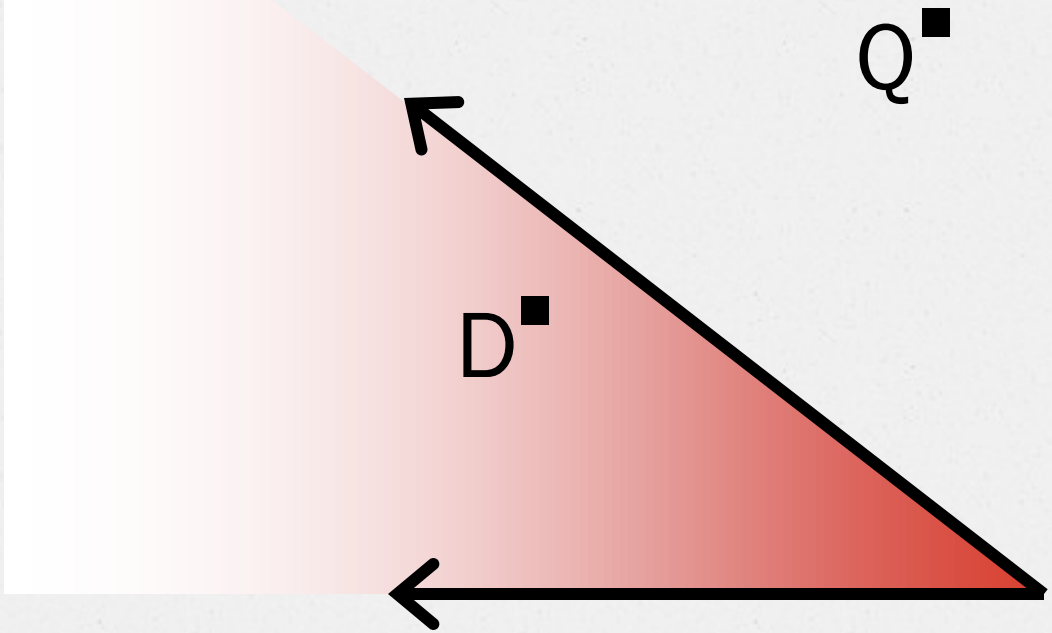


Postulates!

- Protractor Postulate
  - (Just like the ruler postulate, only for angles!)
  - Part 1: The rays of any angle can be matched one to one with the real numbers from 0 to 180.
  - Part 2: The measure of any angle is equal to the absolute value of the difference between the real numbers for its corresponding rays.

Definitions

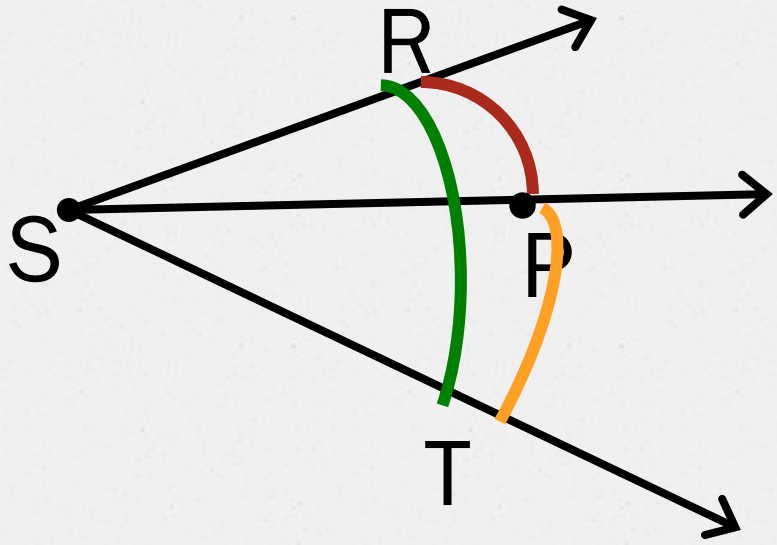
- Interior (of an angle)
- Exterior (of an angle)



Postulate

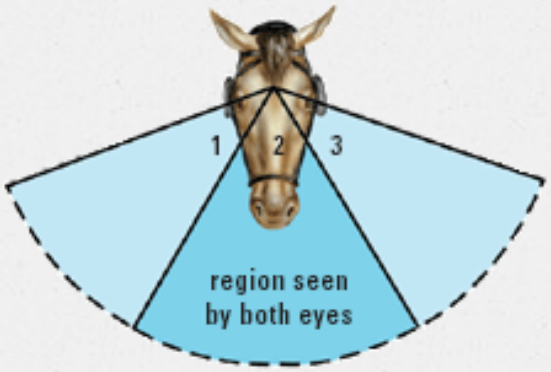
- Angle Addition Postulate
  - If *P* is in the interior of $\angle RST$, then

$$m\angle RSP + m\angle PST = m\angle RST$$



Example.

- Each eye of a horse wearing blinkers has an angle of vision that measures 100°. The angle of vision that is seen by both eyes measures 60°.
- Find the angle of vision seen by the left eye alone.



Using the diagram and the Angle Addition Postulate, we know that the vision for the left eye is $m\angle 2 + m\angle 3$ and from the statement, we know that has to be 100°.
From the given statement, we know that the area of overlap ($m\angle 2$) has to be 60°.

Therefore: $m\angle 2 + m\angle 3 = 100°$

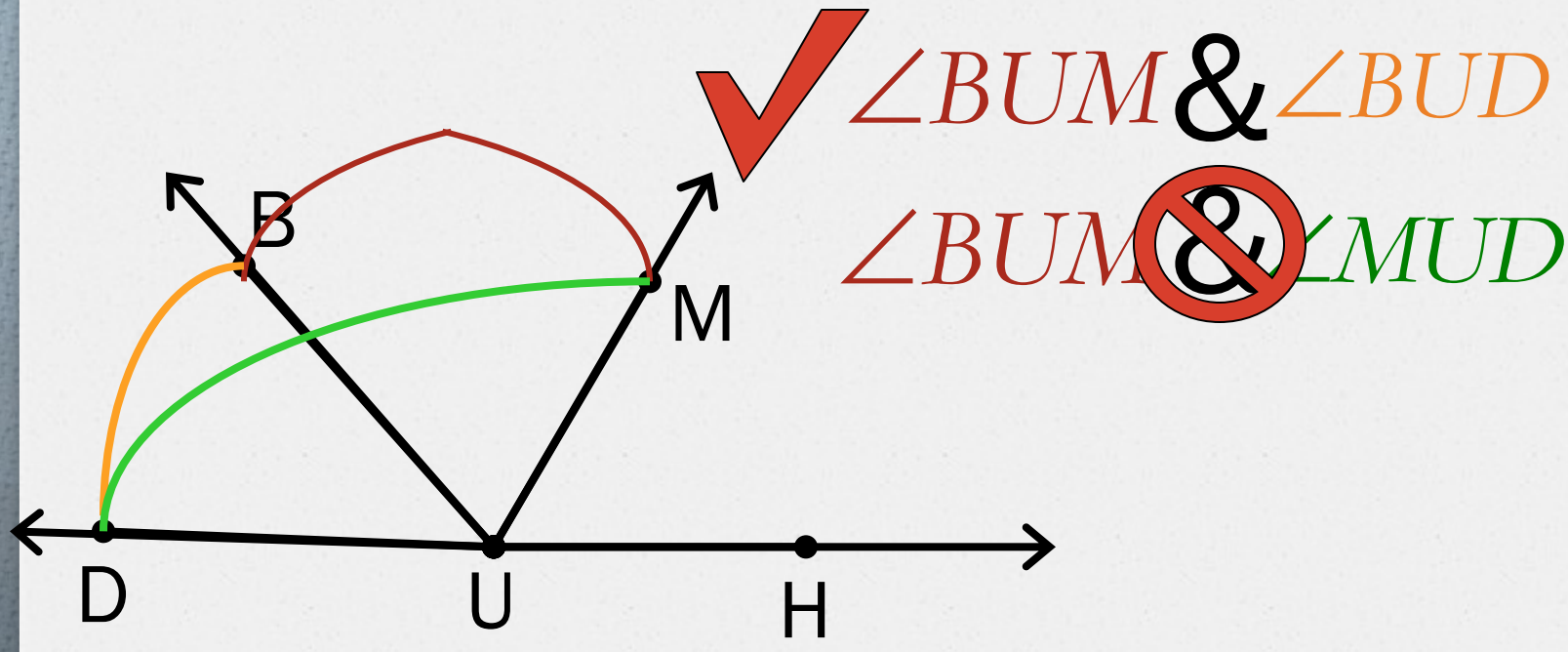
$60° + m\angle 3 = 100°$ $\qquad$ $m\angle 3 = 40°$

Classifying Angles

- Four Angle Classifications (i.e. DEFINITIONS) You Should Know:
  - Acute Angles: angles with measures greater than 0° but less than 90°
  - Right Angle: angle with measure equal to 90°
  - Obtuse Angles: angles with measures greater than 90° but less than 180°.
  - Straight Angle: angle with measure equal to 180°.

Classifying Angles

- Definition
  - Adjacent angles
    - Two angles that share a common vertex and side, but have no common interior points.



Construction Activity

- Constructing Congruent Angles

Homework

- p. 50 #18-28 even, 29-31, 39
- OPTIONAL review: p. 51 #42-49