

Good afternoon: answer the following in your notebooks with a well-developed paragraph

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In the reading assigned Monday, Lockhart writes,

By concentrating on *what*, and leaving out *why*, mathematics is reduced to an empty shell. The art is not in the “truth” but in the explanation, the argument. It is the argument itself which gives the truth its context, and determines what is really being said and meant. Mathematics is *the art of explanation*.

Do you agree with the author? What role does explanation play in math?

**Reminders:**

First assessment will be on Thurs 8/24

Tutoring is Tuesdays 4-5p

# Good afternoon: warm up in your notebooks

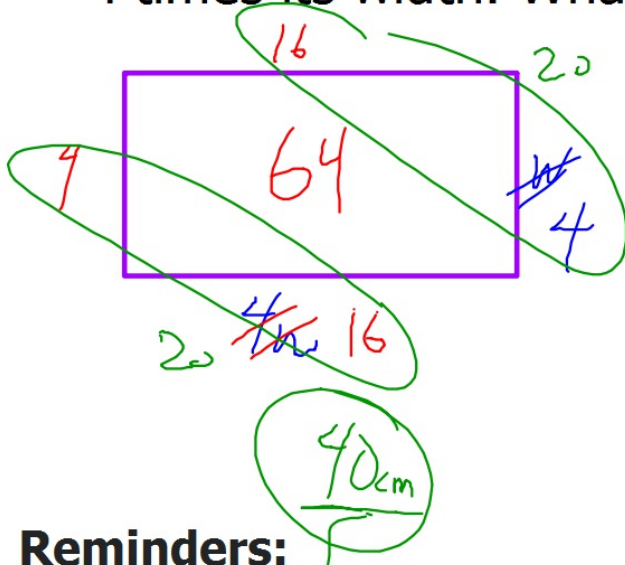
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NO CALC



$$64 = A =$$

A particular rectangle has an area of  $64 \text{ cm}^2$ . Its length is 4 times its width. What is its perimeter?



$$\begin{aligned} l \cdot w &= A \\ 4w \cdot w &= 64 \\ \cancel{4}w^2 &= \frac{64}{\cancel{4}} \\ \sqrt{w^2} &= \sqrt{16} \\ \underline{w} &= 4 \end{aligned}$$

$$4 \overline{) 64}$$

$$\begin{aligned} A &= l \cdot w \\ 64 &= l \cdot \frac{1}{4}l \\ 64 &= \frac{1}{4}l^2 \end{aligned}$$

## Reminders:

First assessment will be on Thurs 8/24

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# Get out/turn to last night's hw p11

Answers: check your work, make corrections, ask questions of table/me

1. D

2.

answers will vary! some ex:

a.)  $\cdot L$



3.

a. ray;  $\overrightarrow{BC}$ ,  $\overrightarrow{BD}$

b. angle:  $\angle 1$ ,  $\angle Q$ ,  
 $\angle PQR$ ,  $\angle RQP$

c. Plane; MPN, NPM,  
PNM, etc. or  $\bar{z}$

d. Segment;  $\overline{FG}$ ,  $\overline{GF}$

e. Line;  $\overleftrightarrow{XY}$ ,  $\overleftrightarrow{YX}$ ,  $l$

4. any 3 noncollinear points  
a script letter

7.

a. 3;  $\overrightarrow{BA}$   $\overrightarrow{BC}$   $\overrightarrow{BD}$

b. 3;  $\angle ABC$   $\angle CBD$   $\angle ABD$

9.

a. collinear points

b. Plane JKM; MKL; KLM



If homework is on loose leaf, please place it in Homework section of your binder  
Don't lose it!!!!

3 binder sections: Homework, Handouts, Assessments

## Continuing the Sketch Artist:

Working with face partner

Person A and B each have 4 different figures and index cards

Person A describes their card in words as accurately and specifically as possible, keeping it hidden from Person B

Person B listens carefully and draws the figure as Person A is describing. When B is done, compare the sketch to the figure!  
How'd you do? How could you improve?

Then switch roles, so B describes and A sketches...and so on

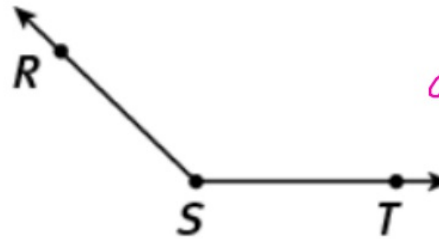
What do you notice? (mathematically)



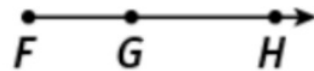
## NOTES



*line  
segment*



*angle*



*ray*

These are not points, lines, or planes....what are they?  
How do we describe them?

Line segment: part of a line between and including 2 endpoints

Naming/symbols:  $\overline{DE}$  ;  $\overline{ED}$



Ray: part of line from one endpoint and all points on one side of it

Naming/symbols:

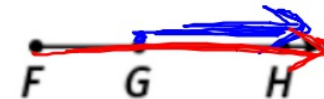
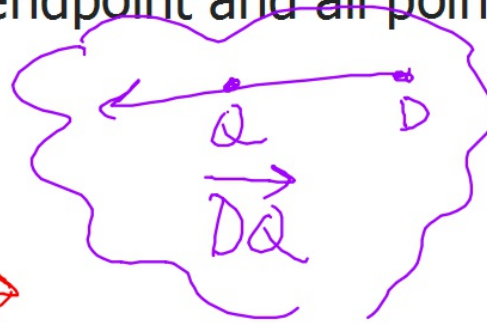
$\overrightarrow{FH}$

$\overrightarrow{GH}$

~~$\overrightarrow{HF}$~~

~~$\overrightarrow{FGH}$~~

$\overrightarrow{FG}$





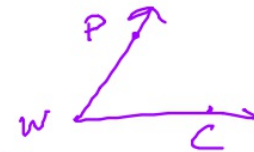
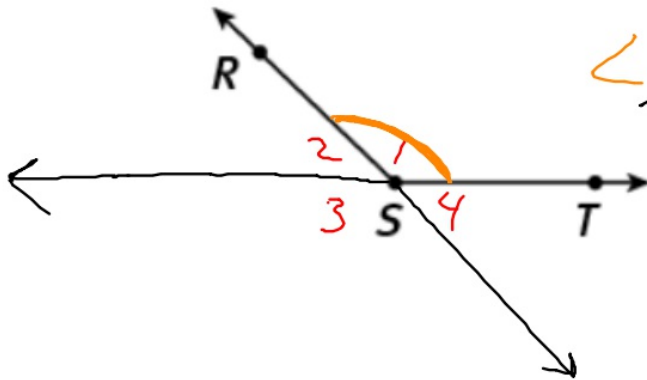
Angle: intersection of 2 rays with a common endpoint

Naming/Symbols:

- use a number label if provided  $\angle 1$
- use the vertex if no other angles share it  $\angle W$
- ⊗ use 3 points: one on either ray of the angle and the vertex in the middle

$\angle RST$   $\angle TSR$

~~$\angle SRT$~~



Looking back at p 11 homework..

7.  $\overrightarrow{\quad} \overrightarrow{\quad} \overrightarrow{\quad}$   
a. 3; BA BC BD  
b. 3;  $\angle ABC$   $\angle CBD$   $\angle ABD$

Enter your PIN into the egg

Which of these is NOT an undefined term of geometry?

A: point

B: angle

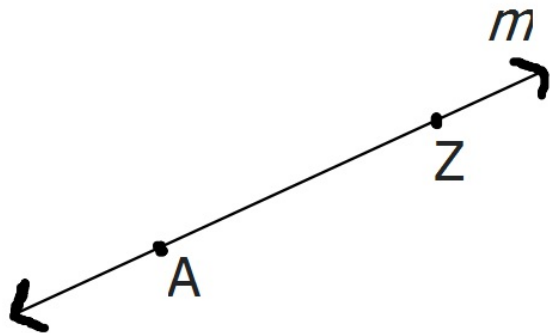
C: plane

D: line

E: these are all undefined terms

correct: B

Which of these is NOT a valid name for this line?



A:  $\overleftrightarrow{AZ}$

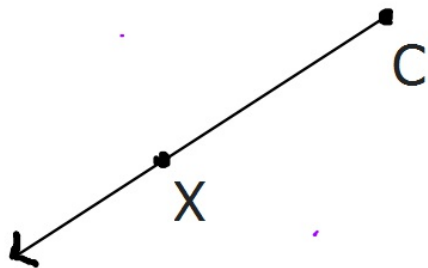
B:  $\overleftrightarrow{ZA}$

C: line  $m$

D: These are all valid names

correct: D

Which of these is a valid name for this ray?



A:  $\overrightarrow{XC}$

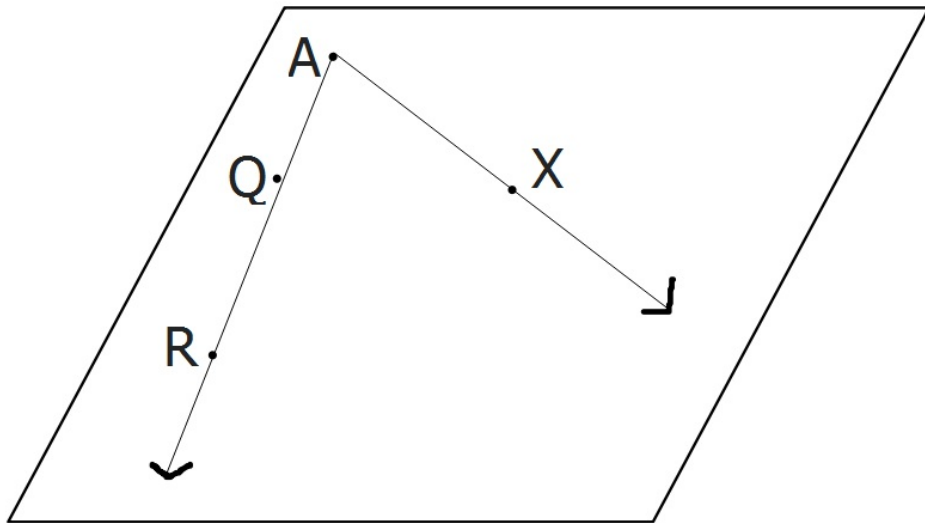
B:  $\overrightarrow{CX}$

C:  $\overrightarrow{C}$

D: None of these is valid

correct: B

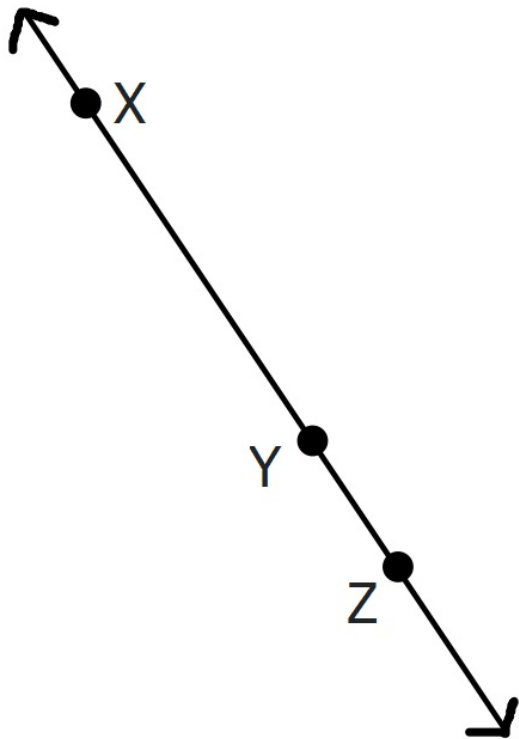
Which of these is a valid name for this plane?



- A: Plane AQR
- B: Plane X
- C: Plane Q
- D: Plane RXQ
- E: None of these is valid

correct: D

Which of these is NOT a valid name for this line?



A:  $\overleftrightarrow{XYZ}$

B:  $\overleftrightarrow{ZY}$

C:  $\overleftrightarrow{XZ}$

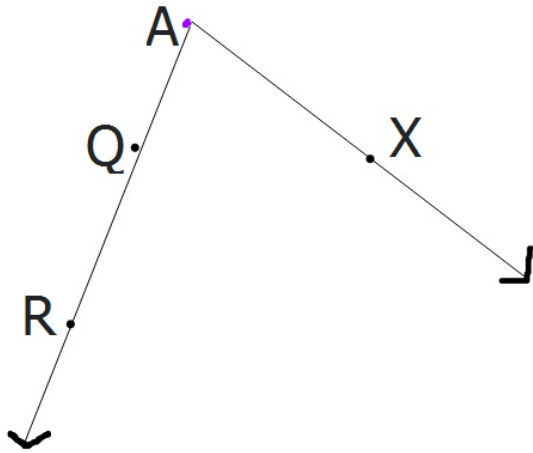
D:  $\overleftrightarrow{XY}$

E:  $\overleftrightarrow{YZ}$

correct: A



Which of these is NOT a valid name for this angle?



A:  $\angle RAX$

B:  $\angle A$

C:  $\angle XAQ$

D:  $\angle XQA$

E: These are all valid names

correct: D

Hand your egg to the person at your table closest to my office door

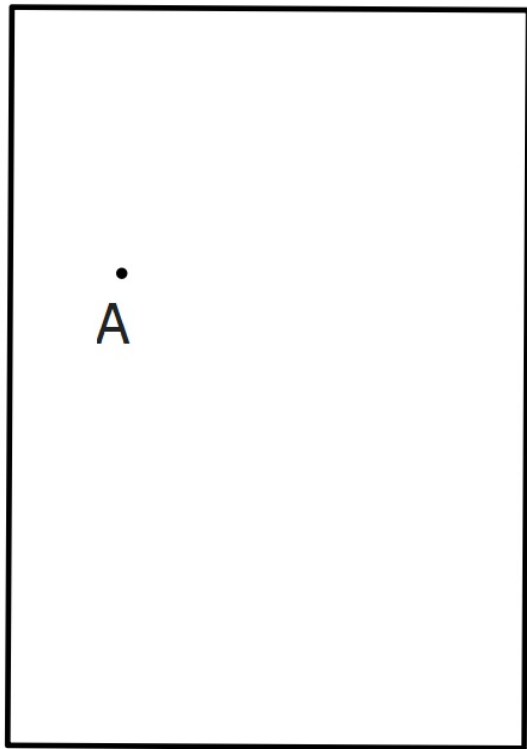
That person will kindly return them to the egg crate :)

Our first construction!

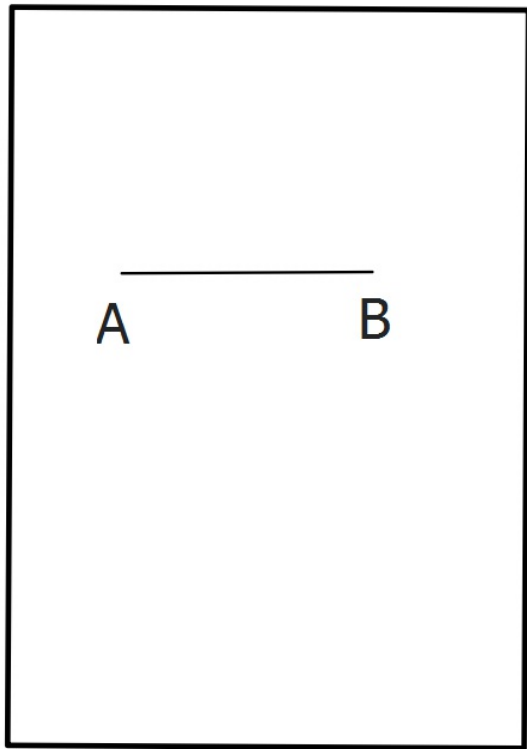
The tools of any geometer: a compass and a straight edge



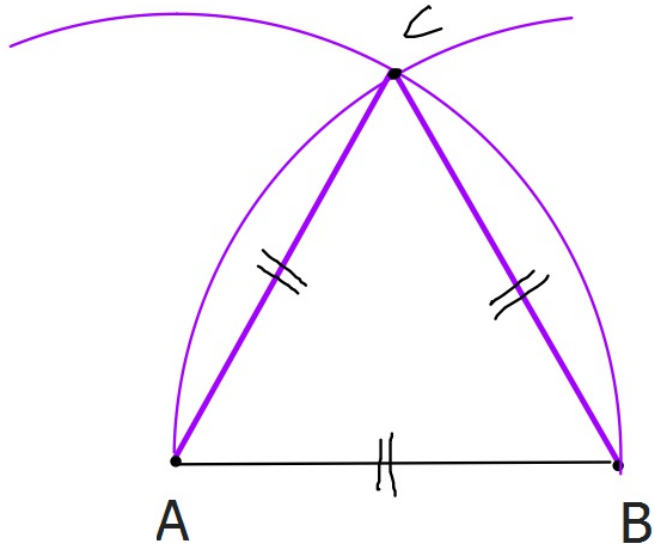
On the next blank page in your notebook,  
place a point and call it A.



Mark another point B. Use your straight edge and make segment AB.

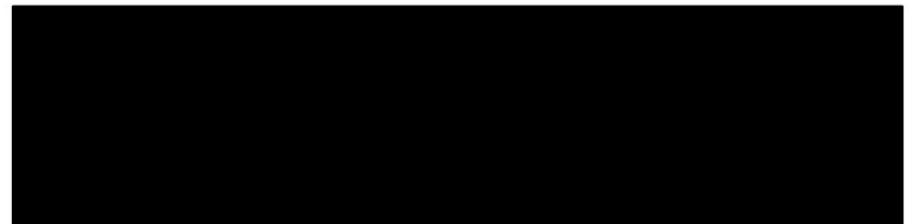


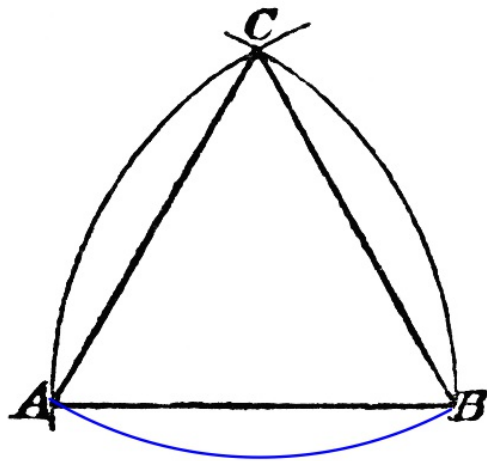
Compass: needle on A, pencil on B; mark a wide arc above (or below, wherever you have room) segment AB.



Now place needle on B, pencil on A and mark another arc, intersecting the first.

Mark the intersection point: C





Want to make a Reuleaux Triangle?

Needle on *C*, pencil at *A* or *B*, complete the figure with an arc!

Homework

p. 6 #13-20

Assessment on Thursday!

Enjoy the eclipse safely! It's something you'll never forget

Be sure supply boxes are neatly organized. Recycle name tents