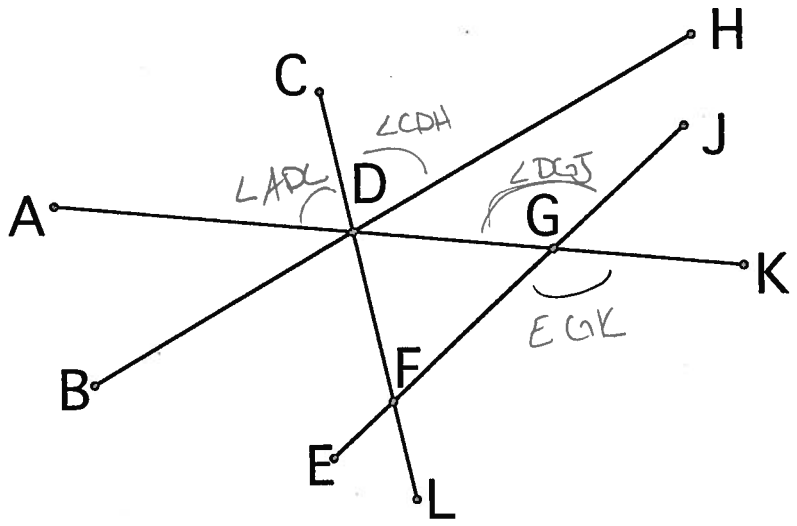
tcore 122: Quiz 1

Key



1. [4] TRUE/FALSE: Refer to the diagram above when answering the following questions. If true, circle T and explain briefly why the statement is true. Otherwise, circle F.

(T) F D is on the line segment $\overline{AK}$

(5) for answer (5) supporting work.

True AK passes thru D

(T) F $\angle DGJ$ has the same measure as $\angle EGK$

True the angles are opposite one another ie vertical angles.

T (F) The measure of $\angle ADC$ plus the measure of $\angle CDH$ is 180°.

notice the two angles do not add up to a straight line (even though they are next to each other)

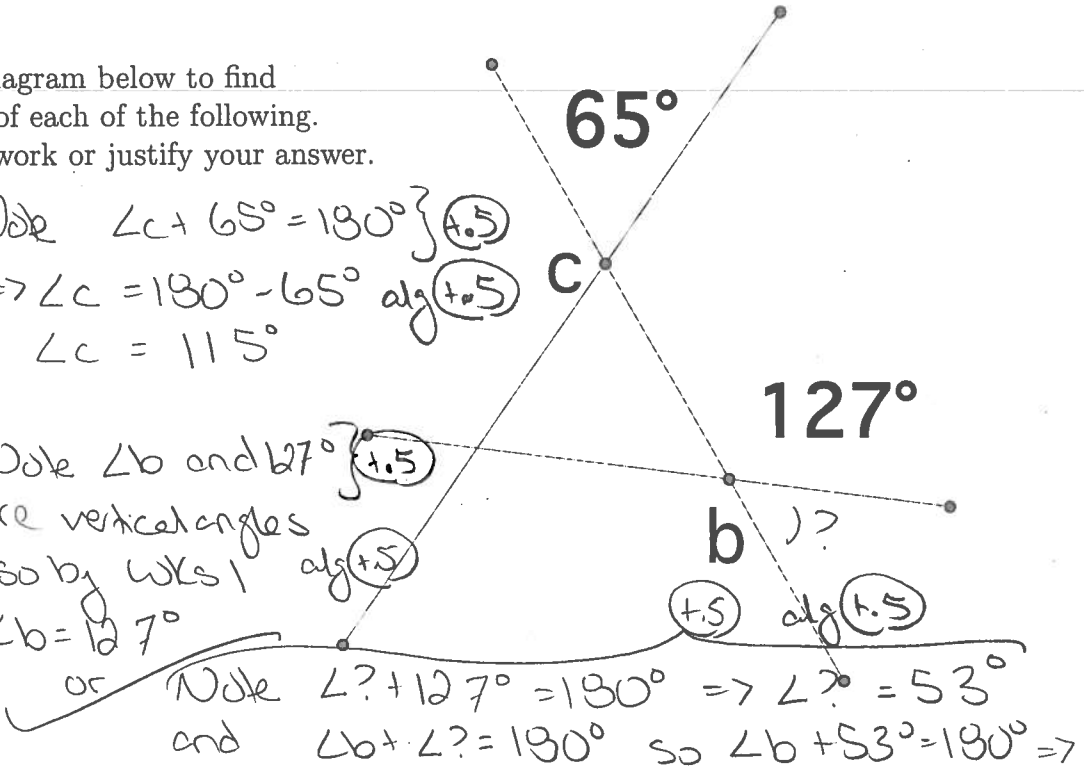
T (F) Given that statements "If I eat a big lunch, then I get sleepy in the afternoon", and "I took an afternoon nap" are true, we can conclude that "I ate a big lunch."

"If I eat a big lunch then I get sleepy in the afternoon" is not equivalent to the converse "If I get sleepy in the afternoon then I ate a big lunch"

2. [3] (Lang §2.1) Identify three symbols or terms that Lang introduces and uses to communicate origami folds to the reader. (+1) for each

valley folds — mountain folds — fold and unfold — fold — push — turn over — rotate 90°

3. [3] Use the diagram below to find the measure of each of the following. Either show work or justify your answer.



(a) $\angle c$. Note $\angle c + 65° = 180°$ (+.5)
$\Rightarrow \angle c = 180° - 65°$ alg (+.5)
$\angle c = 115°$

Statement (+.5)
Justify/cite follow (+.5)

(b) $\angle b$.

Note $\angle b$ and 127° (+.5) are vertical angles so by Vks, $\angle b = 127°$ alg (+.5)

or Note $\angle ? + 127° = 180° \Rightarrow \angle ? = 53°$ (+.5) alg (+.5)
and $\angle b + \angle ? = 180°$ so $\angle b + 53° = 180° \Rightarrow \angle b = 127°$

4. [3] (Technical Communication) Describe three characteristics of technical communications that is not a characteristic of expository writing.

+1 for each

"more focus on taking action" pg 6
"focuses more on achieving a specific purpose" pg 6
"emphasis on anticipating the needs of the reader" pg 6
} goal oriented

make heavier use of graphics (and must refer to pg 573)

"uses command voice" pg 569
"keep steps concise" pg 570 "one action per step"
"numbers the steps"
} step-by-step instructions

5. [3] (TED talk) Lang claimed you can let "dead people do you work for you." What particular results from dead people was Lang interested in and how did it help with the design of new origami shapes?

start (+.5)
Some idea (+.5)

Packing circles (+.5)

+.5 origami connection
+1 flap connection

(+1.5) In order to make/reserve a flap when designing an origami piece one needs to make/reserve a circle on the paper. So to create a piece with multiple flaps corresponds to arranging packing circles.

6. [4] Make at least two arguments to defend or argue against Kary Mullis' declaration that "math is not science".

took position (+.5)
(+1) for each pt
(+.5) style

start (+.5)

math is not science (against):

1) Math makes use of the scientific method as well requiring experimentation & repeatability.

2) Math also uses logic as a tool when confronted with problems.

3) Both are trying to solve problems

math is not science (defend):

1) Math is not 'grounded' in the real world ex no truely 1dim lines etc

2) Math theories are actually provable (as opposed to relying only on repeated experiments)