## tore 112: Midterm

1. Consider the diagram on the right for the questions below.
noxphan (4.5)
lines (5)
do not interest +5
sect (1.5)
(a) [2] (Wheater $\S 2.4 \# 8)$ Identify two lines that do not intersect.

$$
l \text { and } p d_{0} \text { not intersect } 118^{\circ}
$$

(b) [2] (Activit y1 \#8)


Find the measure of $\angle b \quad 140^{\circ}$
$b / c \angle b$ is the vetticdargle
(c) [3] (Activit yd \#8) Identify a pair of adjacent angles
$\angle b$ and $\angle c$ wok so does $L \alpha$ an $\angle d$. (n de there are Many correct answers)
(d) [2] (Quiz \#4) Identify an angle that is $40^{\circ}$
natation +5
anne (4.5)
is $40^{\circ}(1,5)$
S) $=44.5$
2. [2] Define Origami. (1950's i3h)

$$
\begin{aligned}
\angle c \text { since } \quad \angle c & +140^{\circ}
\end{aligned}=190^{\circ} 0
$$



3. [4] (Lang) Recall in origami that there are designated symbols for certain actions or folds. Draw the origami symbols that mean:
start (0.5)
in lang +.ss
(a) valley fold
(b) fold and unfold
stent +.5
in long (15)
gut +1

note: Lenghas 2 def crow tips bet that is nat pact of the marking here.
4. [3](TED talk 1/8) Identify two applications of origami that Dr. Lang highlighted in
 god are 1.5 his TED talk.
5. Consider the tools, physical tools, for a moment....
start (4.5)
donas 115t tads $n \rightarrow$ chord taxis acre allow (价
(b) [2] (Lecture 4/10) Name two tools mathematicians born before 100 AD could use to study geometry problems?
stand (1.5)
before 100 (1)
straight edges, compass
(c) [2] (Lecture 4/10) Name two tools mathematicians born before 100 AD could not.
6. [6] Fold the ladybug whose directions are below (from Stadium High School Cultural Exchange), write your name on the patter, and turn in the result with the exam.


7. [4] (2/3 Discussion) Evaluate the following excerpt (1st and 2nd paragraph) from a Literature review of Pythagorus as you would for a peer with respect to the Organization row of the rubric. Note that you do not need to consider the conclusion. Be $\operatorname{socse}$ (1) careful to provide effective peer feedback!
corcrefefpecice Pythagorus is one of the oldest and best known mathematicians. Croton cremes was experiencing a religious revival "leading to a plethora of quasi-religious
(4) Communities...(that) shared (an) appreciation of a roster of taboos and ritintodscisuals" (Barrow 1992). Pythagorus had a particularly interesting one that

Perhaps even more famous than the mathematician is the theorem that bears his name. The theorem relates to triangles. Let us denote the three side
lengths of a triangle with letters, $a, b$, and $c$. Many know the Pythagorean seemed to worship numbers and assumed their deep connection with, among other things, geometry. beet of detail beths theorem as "A right triangle satisfies the equation, $a^{2}+b^{2}=c^{2}$ where $c$ is the length of the hypothenuse". This version of the Pythagorean theorem is quite useful in finding unknown lengths computationally. Interestingly, this is only half of the theorem! In particular, if $a^{2}+b^{2}=c^{2}$, then we can say that the triangle has a right angle. This second half of the Pythagorean Theorem thus gives us a way of checking if an angle is $90^{\circ}$ or not.

Introduction is no summarizing the pages
 pythegorom Arosere is not oven hing dat in the "intro"?
Introduction seems to have details mot are nose appropncte for the booty of the paper (mistoncal content)
Ind $P$ nice transition po theorem
Show work well fey $a, b$, and $c$ ace dohvod before
their use ink e the oran
8. (Technical Communication Today Reading) Richard Johnson-Sheehan gave a long list of suggestions to authors of instruction sets.
(a) [1] Identify one of his suggestions that you use well.

(b) [1] Identify one of his suggestions that you think if you used this suggestion, it would improve your write-ups for the activities.

9. (Quiz \#1) Consider the study techniques you used for this course so far and for this exam.
(a) [2] Critique the effectiveness of your study technique used for this exam. If it was not effective, what could you have done differently to make your studying more effective?
(b) [2] Critique the efficiency of your study technique used for this exam. If it was not very efficient, what could you have done differently to make your studying
 more efficient?
10. Group Question (only one copy needs to be turned in per group): Begin with a triangle. You need to find a point that is the same distance from each of the three vertices, if it exists. Your answer should include:
(a) [5] Step by step instructions for how to find this point that will work for any triangle, and
(b) [5] Justification for why your procedure works.
a) Begin whin a finagle un patty paper.

Stat (4.5)
werds/puches cleof/sense t1.5

agonized +.5
proesswirstor $1 \Delta 4$

 teadeble? "s
b)
stet (1,5)
words/pch was clar/sence (15)
argenzed (5)
loge for $1 \Delta \Delta$

try rig thargprelated tapider(13)

