PRE TEST

Star Navigation: Explorations into Angles and Measurement

A 6th grade module
in

Math in a Cultural Context
UNIVERSITY OF ALASKA FAIRBANKS

Student Name:
Grade:
Teacher:
School:
Location of School:
Date:

* *This project has been funded by the U.S. Department of Education, *Determining the Potential Efficacy of 6th grade Math in a Cultural Context Project*, Jerry Lipka, P.I.

Note: Students need a protractor for this test

Total Score: ☐

1. **What is an angle? Draw a picture and explain.**

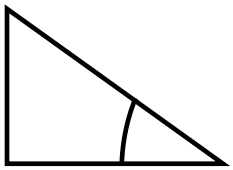
2. **What is an obtuse angle? , circle the correct answer.**
   a. **An angle smaller than a right angle.**
   b. **An angle larger than a right angle but smaller than a straight line.**
   c. **An angle larger than a straight line.**
   d. **An angle almost a full circle.**

3. **Looking at the angles marked below, circle the correct answer.**
   a. **The measure of Angle A is greater than the measure of angle B.**
   b. **The measure of Angles A and B are the same.**
   c. **The measure of Angle B is greater than the measure of angle A.**
   d. **Can't tell from the given information**

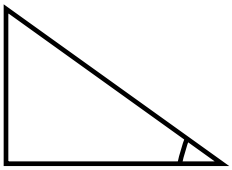
Angle A

Angle B

4. **The two triangles below are the same. Looking at the angles marked, circle the correct answer.**
   a. **The measure of Angle A is greater than the measure of angle B.**
   b. **The measure of Angles A and B are the same.**
   c. **The measure of Angle B is greater than the measure of angle A.**
   d. **Can't tell from the given information.**



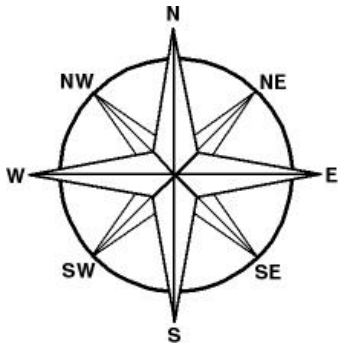
Angle A



Angle B

Use the following information for questions 5, 6, and 7.

Here is a compass. You can read a compass using "compass degrees." For example, North (N) is at 0 degrees and East (E) is at 90 degrees. Use the compass, answer the following questions.



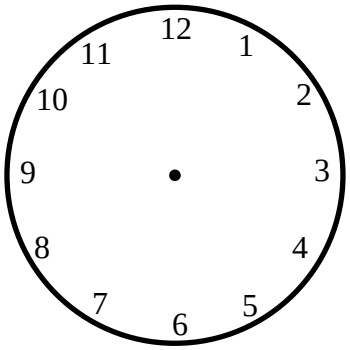
5. **What is the compass degree reading for South (S)? Circle the correct answer.**
   a. **45 degrees**
   b. **90 degrees**
   c. **180 degrees**
   d. **270 degrees**
   e. **360 degrees**

6. **What direction has a compass degree reading of 45 degrees?**

7. **What is the compass degree reading for South East (SE)?**

8. If this clock shows 8 o'clock, what is the angle between the hour and minute hands?

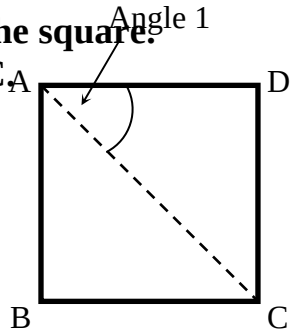
a. Draw in the hands **b. Give the measure of the angle using degrees.**



Angle Size

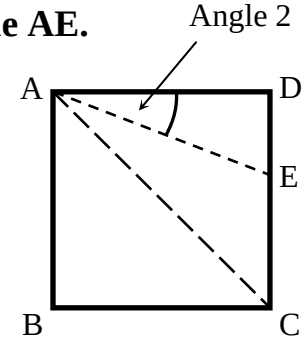
9. Here is a square. Angle A is the upper left corner of the square. Angle A is divided into two equal parts by the line AC.

What is the measure of Angle 1? _____



10. Here is the same square from Question #9.
Angle 1 is now broken into two equal parts by the line AE.

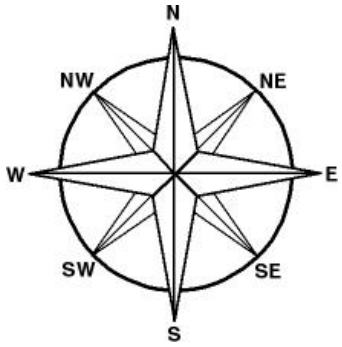
What is the measure of Angle 2? _____



11. Complete the following table.

Picture	Is this an angle?	Why or why not?
a. 		
b. 		
c. 		

12. Follow the directions and find your way home.



a. **Begin at Start Here, location: 5E**
b. **Move two spaces directly North. Mark an X on the location and write the coordinates here:_____**
c. **Move one space in a NE direction. Mark an X on the location and write the coordinates here:_____**
d. **Now move three spaces East. Mark an X on the location and write the coordinates here:_____**

	1	2	3	4	5	6	7	8	9
A									
B									
C									
D									
E					START HERE				
F									
G									
H									
I									

13. Here is shadow data collected in Alaska.

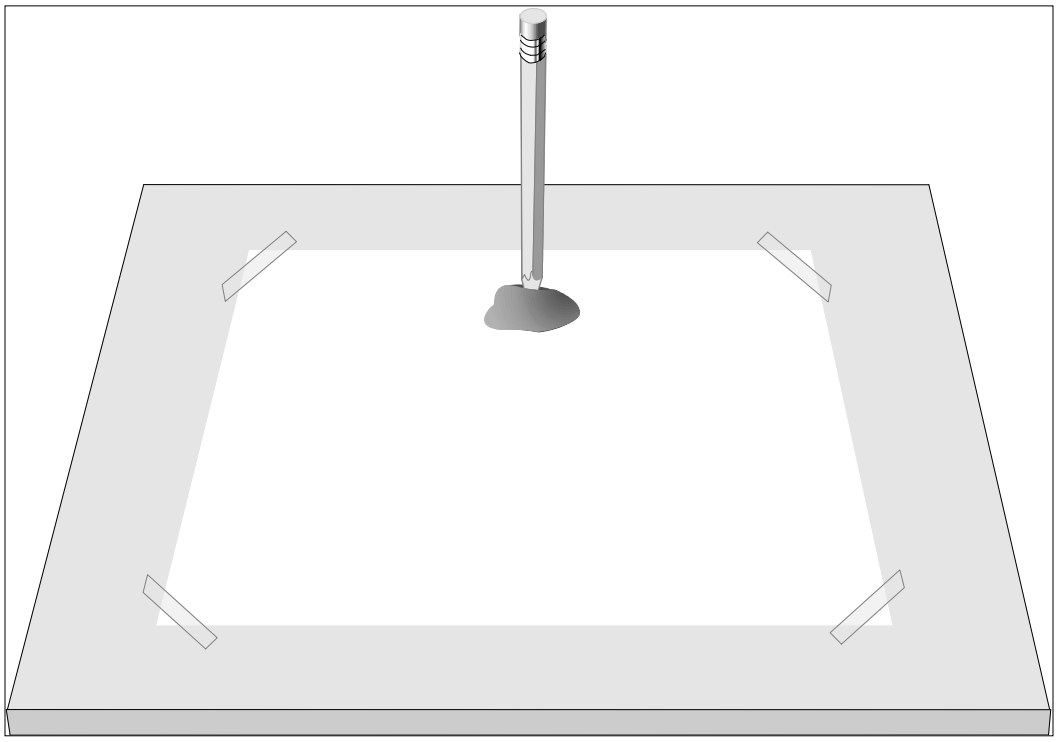
a. **What time shows the shortest shadow? _____**

b. **What direction in the sky would you find the sun? Circle the correct answer**

   i. **East**
   ii. **South**
   iii. **North**
   iv. **West**

Time	Shadow Data
9 am	10 feet
11 am	6 feet
1 pm	5 feet
3 pm	6 feet
5 pm	10 feet

c. **The sun shines on a sundial. Use the Time and Shadow Data table and represent (draw it) the data. Draw and label the data.**



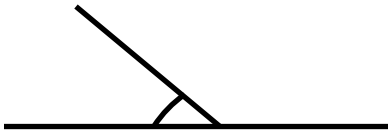
Turn in this part of the test to your teacher.

Complete this page with a protractor.

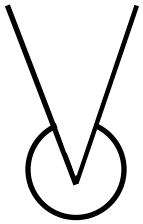
Name: _____

Teacher's Name:_____

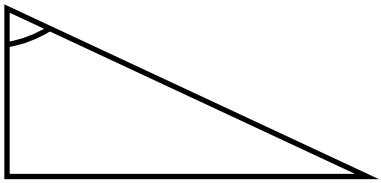
14. Use a protractor to measure the marked angle in each object below. Place your answer in degrees on the line under the angle.



a) _____



b) _____



c) _____

15. Use a protractor to divide this angle into 3 equal angles. What is the measure of each angle you drew in degrees?