

PRE TEST KEY

Star Navigation: Explorations into Angles and Measurement

**A 6th grade module
in**

**Math in a Cultural Context
UNIVERSITY OF ALASKA FAIRBANKS**

Student Name:	PRE TEST KEY
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

25 total points

Total Score:

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

NOTE: this item is worth 2 pts.

Picture (1 pt.):



Explanation: An angle is two rays that have a common endpoint (1pt.)

2. What is an obtuse angle? , circle the correct answer.

b. An angle larger than a right angle but smaller than a straight line. (1pt.)

3. Looking at the angles marked below, circle the correct answer.

c. The measure of Angle B is greater than the measure of angle A. (1 pt.)



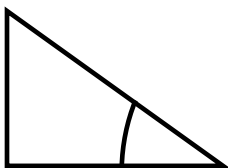
Angle A



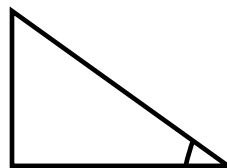
Angle B

4. The two triangles below are the same. Looking at the angles marked, circle the correct answer.

b. The measure of Angles A and B are the same. (1 pt.)



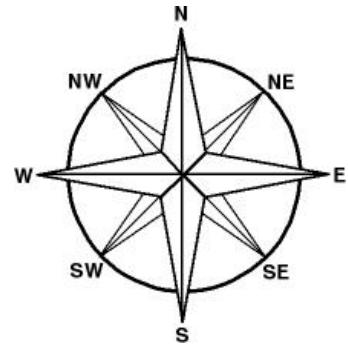
Angle A



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. c. 180 degrees (1 pt.)

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

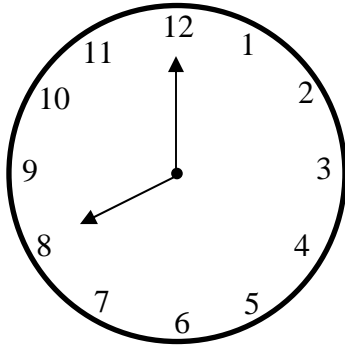
NE (1 pt.)

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

135° (1 pt.)

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.

(1 pt.) see picture below

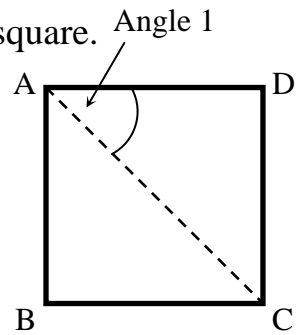


Angle Size

120° (1 pt.)

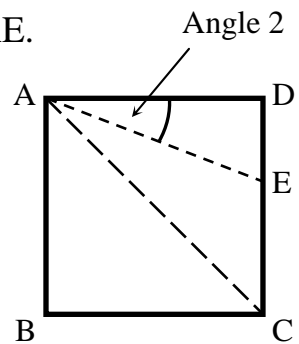
9. Here is a square. Angle A is the upper left corner of the square. Angle A is divided into two equal parts by the line AC.

What is the measure of Angle 1? **45° (1 pt.)**






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? **22.5° (1 pt.)**



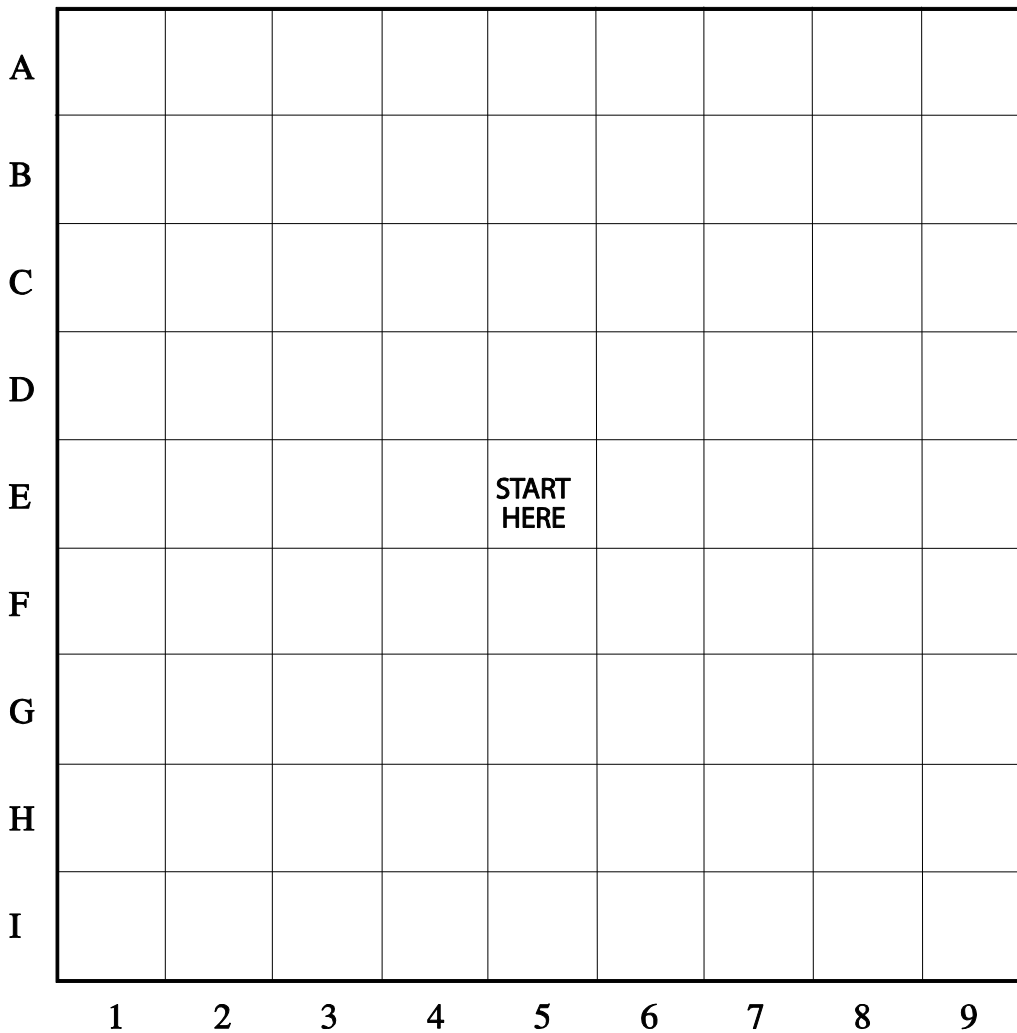
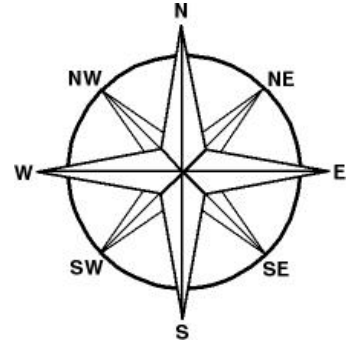
11. Complete the following table.

Picture	Is this an angle?	Why or why not?
a. 	<u>NO</u>	<u>Two rays do not have a common endpoint.</u>
b. 	<u>YES</u>	<u>Straight angle.</u>
c. 	<u>NO</u>	<u>Sides are not rays.</u>

NOTE: Items 8a, 8b, and 8c are each worth 1 pt. (3 pts. Total); students must get both the YES/NO and explanation parts correct for each item to receive 1 pt. (otherwise 0 pts.)

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: ___
5C (1 pt.)
- c. Move one space in a NE direction. Mark an X on the location and write the coordinates here: ___
6B (1 pt.)
- d. Now move three spaces East. Mark an X on the location and write the coordinates here: _ **9B (1 pt.)**



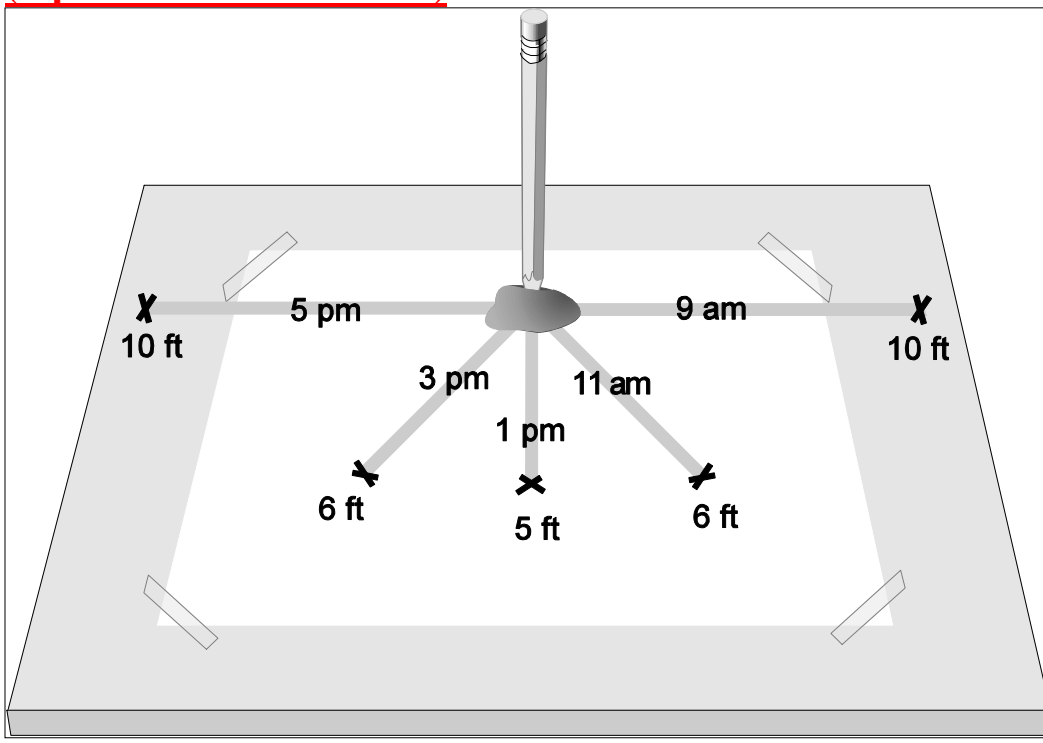
13. Here is shadow data collected in Alaska.

- What time shows the shortest shadow? **1 p.m. (1 pt.)**
- What direction in the sky would you find the sun? Circle the correct answer
ii. South (1 pt.)

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

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

(1 pt. for correct sketch)



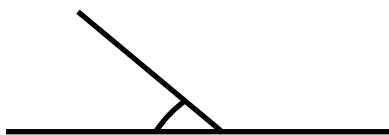
Turn in this part of the test to your teacher.

Complete this page with a protractor.

Teacher's Name: _____

Use a protractor to measure the marked angle in each object below. Place your answer in degrees on the line under the angle. **Answers: 14a is 40° , 14b is 320° , 14c is 65° ; each response is 1 pt., 3 pts. total.**

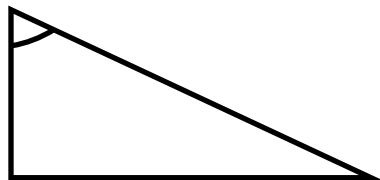
14.



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? **Angles are each 40° (1 pt.)**

