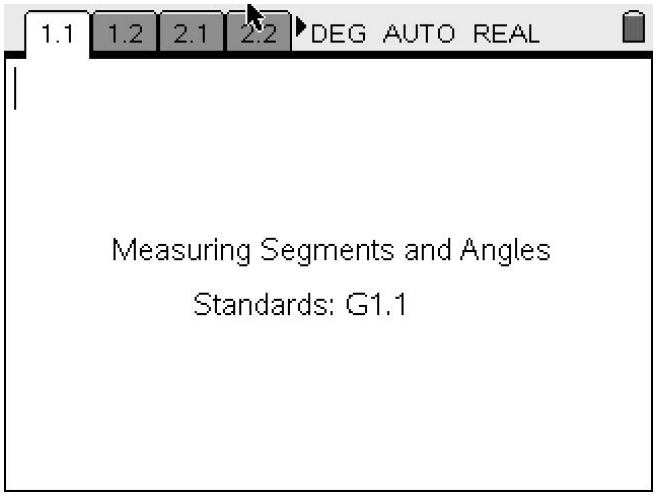
Topic: Measuring Segments and Angles

Name: _____ Date: _____

Directions: Use your handheld to complete each question. Be sure to show all work, and to answer each question as completely as possible.

- Students should open the document *measuringsegmentsandangles.tns* on their handheld.
- You should save this file first in the appropriate folder (Geometry) before proceeding. Save the file as ***msegandanglesInitials*** (This will help in case you make a mistake and need to begin again. You will have a blank document to begin from.
- Once you have completed the activity delete the transfer folder.



Problem # 1: Measuring Segments

Use page 1.2 on your handheld to answer the following questions and complete each step.

1. Draw Segment AB.

2. Use the POINT-ON option and place a point C on segment AB.

3. Measure segments AC, CB and AB. Record your answers below.

AC = _____ CB = _____ AB _____

4. What do you notice?

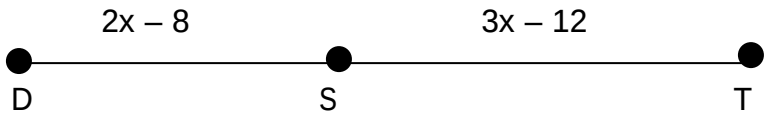
5. If you move point C to different locations on AB, does your answer for #4 still hold? What changes? What remains the same?

6. Change the length of AB by grabbing one of the end points and extending the segment. Repeat #5, do your observations still hold?

7. Write the definition of the **Segment Addition Postulate** below in your own words.

If three points A, B and C are _____
_____
_____
_____

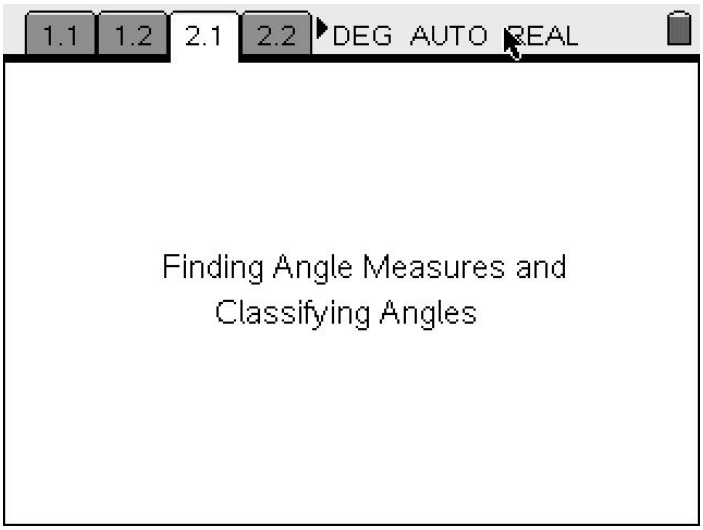
8. If DT = 60, find the value of x. Then find DS and ST



9. C is the midpoint of AB. Find AC, CB, and AB if AC is 2x+1 and CB is 3x – 4**.**

Problem # 2 Finding Angle Measures

Use page 2.2 on your handheld to answer the following questions and complete each step.



10. Draw ∠DEF.

11. Measure ∠DEF. m∠DEF = _____

12. Classify ∠DEF. ∠DEF is a(n) _____ angle.

13. Define each of the following:

a. Right Angle: _____
b. Acute Angle: _____
c. Obtuse Angle: _____
d. Straight Angle: _____
e. Congruent Angles: _____

14. Grab one of the rays of ∠DEF. Change your angle so that you have each of the other angles.

15. Can you get exactly a 90° angle by just grabbing and moving the rays of the angle? Why or why not? If you wanted a 90° angle exactly, what would you have to do?

16. Draw Ray EG in the middle of ∠DEF.

17. Measure ∠DEG and ∠GEF. Record your answers below. What do you notice?

m∠DEF = _____ m∠DEF = _____ m∠GEF = _____

18. Move Ray EG. What changes? What stays the same?

19. Move one of the rays of ∠DEF. What changes? What stays the same?

Summarize the Angle addition Postulate below:

Angle Addition Postulate:

_____
_____
_____
_____
_____
_____

Use the diagram at the right to find the missing angle measures

20. If ∠ACB = 75 and ∠DCB = 32 find ∠ACD.

21. If ∠ACD = 46.3 and ∠DCB = 117.4 Find ∠ACB.

22. If ∠ACD is twice the measure of ∠DCB and ∠ACB = 96. What is ∠ACD and ∠DCB?