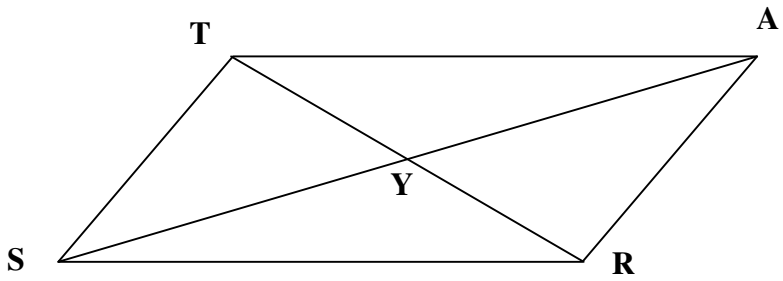
Quiz: Lessons 4.10-4.14 Name _____ Period ___

Find each of the missing measures for parallelogram STAR at the right if ST = 17cm, TY = 12cm, $m\angle TAR = 52^o$ and SA = 30cm.



1) AR =

3) $m\angle STA$ =

2) $m\angle RST$ =

4) SY =

5) If the perimeter of STAR is 76cm, find the length of $\overline{AT}$. AT =

Points E and T have coordinates E(-5, 12) and T(-1, -4) .

6) Find the **midpoint** of $\overline{ET}$.

7) Find the **slope** of $\overleftrightarrow{ET}$.

8) Find the **slope** of a line **perpendicular** to $\overleftrightarrow{ET}$.

9) **State** Conjecture C-25. **Sketch a figure** with measurements to show an example of this conjecture below.

10) ***Construct*** rhombus CUTE **on the back of this sheet** with diagonals $\overline{CT}$ and $\overline{EU}$ meeting at Y. Measure $\angle CYE$. Do all parallelograms have this property? Explain.

Answers provided below…….

1) 17 cm (Opposite sides of a parallelogram are equal.)

2) 52^{o} (Opposite angles of a parallelogram are equal in measure.)

3) 128^{o} (Consecutive angles of a parallelogram are supplementary.)

4) 15 cm (Diagonals of a parallelogram bisect each other.)

5) 21 cm

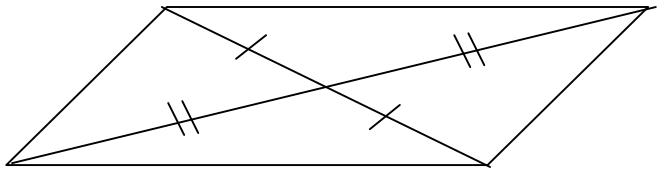
6) $\left(\frac{-1+-5}{2}, \frac{12+-4}{2}\right) = (-3, 4)$

7) $m = \frac{-4-12}{-1--5} = \frac{-16}{4} = -4$

8) Any line perpendicular will have a slope that is opposite in sign and the reciprocal of -4. Answer: + 1/4 .

9) C-25: The diagonals of a parallelogram bisect each other.

Sketch:



10) Not all parallelograms have diagonals perpendicular to each other…. See the sketch in #9 above.