



Use a protractor and a centimeter ruler. Classify each triangle by its angles and its sides.

1.

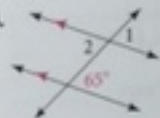


2.

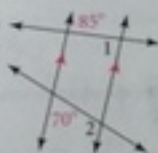


Find $m\angle 1$, then $m\angle 2$. Justify each answer.

3.



4.



5.



6.



Two lines are parallel and cut by a transversal. Write *yes* or *no* to indicate whether the numbers given could be the measures of a pair of same-side interior angles.

7. 40 and 140

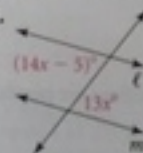
8. 90 and 90

9. 60 and 60

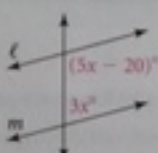
10. 27 and 27

Algebra Find the value of x for which $\ell \parallel m$.

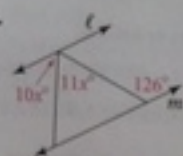
11.



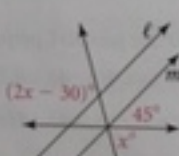
12.



13.



14.



15. Draw a line m and a point T not on the line. Construct the line through T perpendicular to m .

16. Draw an angle, $\angle ABC$. Then construct line m through A so that $m \parallel \overleftrightarrow{BC}$.

17. **Open-Ended** The letter **F** illustrates a pair of same-side interior angles and a pair of corresponding angles. Find a letter that illustrates alternate interior angles.

18. **Open-Ended** Describe two corresponding angles formed by lines in your classroom.

19. Supply the reason for each step in the proof.

Given: $\ell \parallel m$ and $\angle 4 \cong \angle 2$

Prove: $n \parallel p$

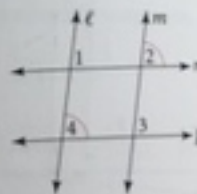
1. $\ell \parallel m$ a. ?

2. $\angle 1 \cong \angle 2$ b. ?

3. $\angle 4 \cong \angle 2$ c. ?

4. $\angle 1 \cong \angle 4$ d. ?

5. $n \parallel p$ e. ?

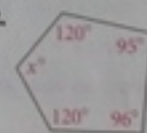


20. Write an equation of the line with slope -5 and containing $A(3, -1)$.

21. **Writing** Explain how you can determine whether a polygon is concave or convex.

Find the value of each variable.

22.



23.



Sketch each pair of lines. Tell whether they are *parallel*, *perpendicular*, or *neither*.

24. $y = 4x + 7$

25. $y = 3x - 4$

$y = -\frac{1}{4}x - 3$

$y = 3x + 1$

26. $y = x + 5$

27. $y = -3$

$y = -5x - 1$

$x = 10$

28. What is the measure of an exterior angle of a regular 12-gon?