

ACP Geometry

Name _____

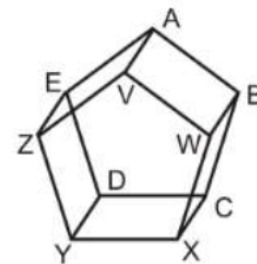
Unit 2 Review

2-4

Fill in the blanks using the postulates from section 2.4

1. Through any 2 points there is exactly one line.
2. Through any 3 noncollinear points, there is exactly one plane.
3. A line contains at least 2 points.
4. A plane contains at least 3 noncollinear points.
5. If two lines intersect, then their intersection is at a point.
6. If two planes intersect, then their intersection is a line.
7. Name the intersection of planes ABWV and AVZE.

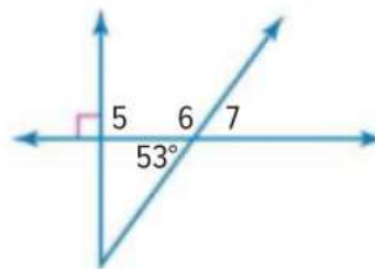
AV



2-6

Find the measure of each numbered angle.

8. $\angle 5$ 90
Justification: linear pair
9. $\angle 6$ 127
Justification: linear pair
10. $\angle 7$ 53
Justification: Vertical \angle Thm



ACP Geometry

Name _____

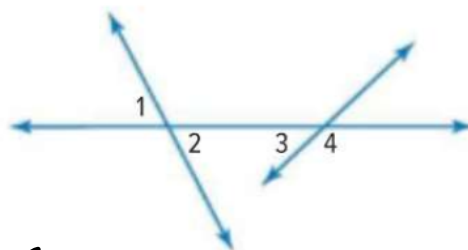
Given $m\angle 1 = 72$ and $m\angle 3 = 26$, find:

11. $m\angle 2 = \underline{72}$

Justification: Vert \angle Thm

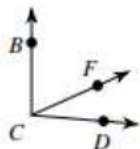
12. $m\angle 4 = \underline{154}$

Justification: Supplement Thm



13.

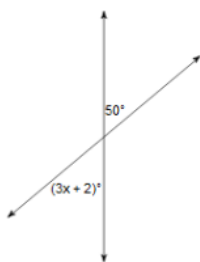
$m\angle FCD = x + 41$, $m\angle BCF = x + 78$,
and $m\angle BCD = 95^\circ$. Find x .



$$\begin{aligned} x + 41 + x + 78 &= 95 \\ 2x + 119 &= 95 \\ x &= -12 \end{aligned}$$

Which theorem/postulate did you use to set up the equation? Angle Add Post

14.



Find the value of x . $x = \underline{\hspace{2cm}}$

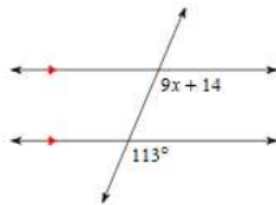
$$\begin{aligned} 3x + 2 &= 50 \\ 3x &= 48 \quad x = 16 \end{aligned}$$

Which theorem/postulate did you use to set up the equation? Vert \angle Thm

ACP Geometry

Name _____

15.

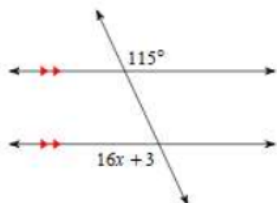


Find the value of x . $x = \underline{11}$

$$\begin{aligned} 9x + 14 &= 113 \\ 9x &= 99 \\ x &= 11 \end{aligned}$$

Which theorem/postulate did you use to set up the equation? Corr \angle Post

16.

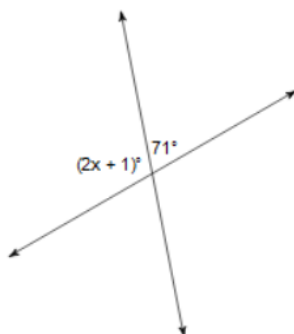


Find the value of x . $x = \underline{7}$

$$\begin{aligned} 16x + 3 &= 115 \\ 16x &= 112 \\ x &= 7 \end{aligned}$$

Which theorem/postulate did you use to set up the equation? AEA Thm

17.



Find the value of x . $x = \underline{54}$

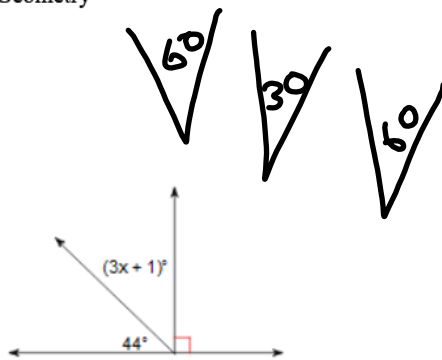
$$\begin{aligned} 2x + 1 + 71 &= 180 \\ 2x + 72 &= 180 \\ 2x &= 108 \end{aligned}$$

Which theorem/postulate did you use to set up the equation? Supplement Thm

ACP Geometry

Name _____

18.



Find the value of x . $x = 15$

$$\begin{aligned} 3x + 1 + 44 &= 90 \\ 3x + 45 &= 90 \\ 3x &= 45 \end{aligned}$$

Which theorem/postulate did you use to set up the equation? Complement Thm

61 29 61

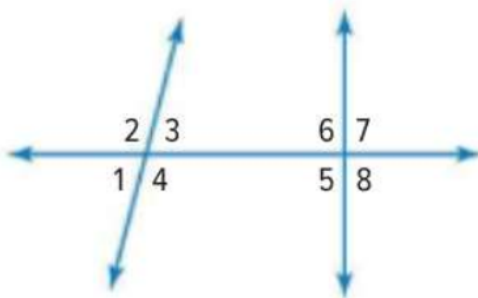
19. $\angle 1$ is complementary to $\angle 2$ and $\angle 3$ is complementary to $\angle 2$. $m\angle 1 = 61^\circ$

Find $m\angle 2$ and $m\angle 3$.

Which theorem/postulate did you use to set up the equation? \cong complement thm

2-7

Classify the pairs of angles as corresponding, alternate interior, alternate exterior, consecutive interior, vertical angles, or linear pair. SSI

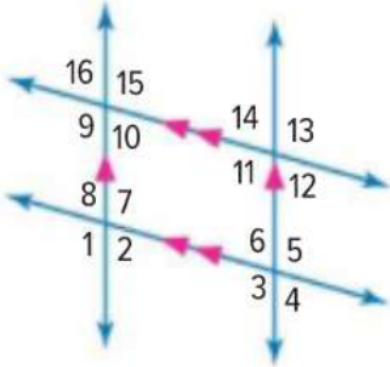


- 20. $\angle 2$ and $\angle 6$ Corr
- 21. $\angle 1$ and $\angle 3$ Vert
- 22. $\angle 4$ and $\angle 5$ SSI
- 23. $\angle 7$ and $\angle 8$ linear Pair
- 24. $\angle 1$ and $\angle 7$ AEA

ACP Geometry

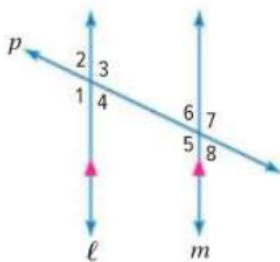
Name _____

Given $m\angle 1 = 123$, find the measures of the angles below. Be ready to justify your response!



- 25. $m\angle 3 =$ 123
- 26. $m\angle 4 =$ 57
- 27. $m\angle 7 =$ 123
- 28. $m\angle 8 =$ 57
- 29. $m\angle 10 =$ 57
- 30. $m\angle 11 =$ 123
- 31. $m\angle 14 =$ 57
- 32. $m\angle 15 =$ 123

Use the diagram below to answer each question.



- 33. Name the transversal. P
- 34. Which two lines are parallel? l || m

Given $m\angle 5 = 7x - 5$ and $m\angle 4 = 2x + 23$, find:

35. $x =$ $7x - 5 + 2x + 23 = 180$

36. $m\angle 4 =$ _____ and $m\angle 5 =$ _____

$$\frac{9x}{9} = \frac{162}{9} \quad x = 18$$

Which theorem/postulate did you use to set up the equation? SSI Thm.

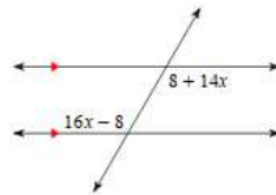
37. Find the value of x in the diagram at the right.

$x =$ _____

$$16x - 8 = 8 + 14x$$

$$2x = 16$$

$$x = 8$$



Which theorem/postulate did you use to set up the equation? AIA Thm

ACP Geometry

Name _____

2-8 Determine whether \overline{KM} and \overline{ST} are parallel, perpendicular or neither.

38. $K(-1, -8), M(1, 6), S(-2, -6), T(2, 10)$

39. $K(-1, -8), M(1, 6), S(-2, -6), T(2, 10)$

$\overleftrightarrow{KM} = \frac{-8-6}{-1-1} = 7$ $\overleftrightarrow{ST} = \frac{-6-10}{-2-2} = \frac{+16}{4} = 4$ **Neither**
 $y - 0 = \frac{2}{3}(x + 3)$

Write an equation in point-slope form of the line having the given slope that contains the given point

40. contains $B(-4, 2)$, parallel to \overline{FG} with $F(0, -3)$ and $G(4, -2)$ $m = \frac{-2-(-3)}{4-0} = \frac{1}{4}$

41. contains $Z(-3, 0)$, perpendicular to \overline{EK} with $E(-2, 4)$ and $K(2, -2)$

$y - 2 = \frac{1}{4}(x + 4)$ $m = \frac{1}{4}$

$\frac{4}{2} = \frac{-1}{4} \cdot 6$

41a. Find the missing coordinate, b , if $D(b, 4), S(-6, 3)$ and $m = \frac{1}{12}$.

$\frac{4-3}{x_2-x_1} = m$

$-6 = b = -12$ $\frac{3-4}{-6-b} = \frac{1}{12}$
 $-6 - b = -12$ $\frac{-1}{-6-b} = \frac{1}{12}$

$-12 = -6 - b$
 $-6 = -b$
 $6 = b$

2-9

State which lines, if any, are parallel. State the postulate/theorem used to justify your answer.

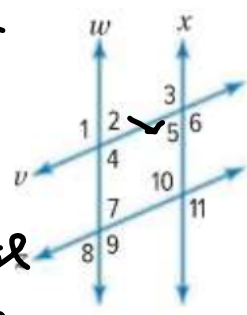
42. $m\angle 7 + m\angle 10 = 180$ $w \parallel x$, SSI Converse

43. $\angle 2 \cong \angle 5$ $w \parallel x$, AIA Converse

44. $\angle 3 \cong \angle 4$ $w \parallel x$, AIA Converse

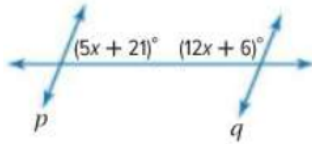
45. $\angle 6 \cong \angle 11$ $v \parallel z$, Corr \angle Converse

46. $\angle 1 \cong \angle 6$ $w \parallel x$, AEA Converse



ACP Geometry

Name _____

Determine the value of x to make $p \parallel q$. Identify the postulate or theorem used.

47. $x =$ _____ , _____