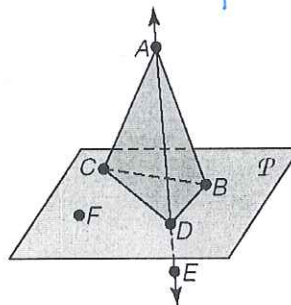


1. Which three points in the figure are collinear?

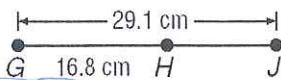
A, D, E

2. Name the intersection of the plane that contains points A, B, and D and the plane P.

\overleftrightarrow{BD}



3. Find the length of \overline{HJ} .



$29.1 - 16.8 = 12.3 \text{ cm}$

4. Find x if S is between R and T, RS is x + 3, ST is 5x, and RT is 57.

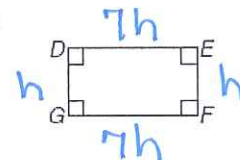


$x + 3 + 5x = 57$
 $6x + 3 = 57$
 $6x = 54$

$x = 9$

5. The perimeter of rectangle DEFG is 176, EF = h, and DE = 7h. Find h.

$7h + 7h + h + h = 176$
 $16h = 176$
 $h = 11$



6. For S(-5, 7), T(1, 9), P(12, -1), and R(3, 26), determine whether \overline{ST} and \overline{PR} are parallel, perpendicular, or neither.

m of ST: $\frac{(-5 \quad 7)}{(1 \quad 9)}$
 $\frac{-2}{-6} = \frac{1}{3}$

m of PR: $\frac{(12 \quad -1)}{(3 \quad 26)}$
 $\frac{-27}{9} = -3$

\perp

7. Find the distance between M(-2, 3) and N(8, 2).

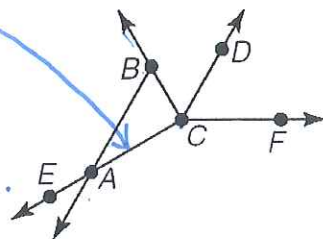
$\sqrt{(8+2)^2 + (2-3)^2} = \sqrt{10^2 + (-1)^2} = \sqrt{101}$

8. Find the coordinates of the midpoint of \overline{AS} if $A(-4, 7)$ and $S(5, 3)$.

$$\left(\frac{-4+5}{2}, \frac{7+3}{2} \right) = \left(\frac{1}{2}, 5 \right)$$

9. What type of angle is $\angle BAC$?

Acute

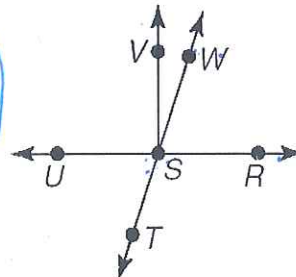


#10-14 Use figure at the right.

10. Find $m\angle VSW$ if $\angle WSR$ and $\angle VSW$ are complementary and $m\angle WSR$ is four times $m\angle VSW$.

$$\begin{aligned} x + 4x &= 90 \\ 5x &= 90 \\ x &= 18 \end{aligned}$$

$$m\angle VSW = 18^\circ$$



11. Name a pair of angles that are supplementary.

$$\angle USV \text{ \& } \angle VSR$$

12. Which angle is a vertical angle to $\angle UST$?

$$\angle WSR$$

13. If $m\angle VSR = 8x + 18$, find x so that $\overline{US} \perp \overline{VS}$.

$$8x + 18 = 90$$

$$x = 9$$

14. Find $m\angle USW$ if $m\angle USW = 7x - 34$ and $m\angle TSR = 4x + 29$.

$$7x - 34 = 4x + 29$$

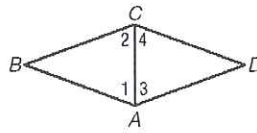
$$3x = 63$$

$$x = 21$$

$$7(21) - 34 = 113$$

Fill in the missing reasons for #15 and #16.

Given: \overline{AC} bisects $\angle BAD$.
 \overline{AC} bisects $\angle BCD$.
 $\angle 1 \cong \angle 2$
 Prove: $\angle 3 \cong \angle 4$



| Statements | Reasons |
|--|------------------|
| 1. \overline{AC} bisects $\angle BAD$. | 1. Given |
| 2. \overline{AC} bisects $\angle BCD$. | 2. Given |
| 3. $\angle 1 \cong \angle 2$ | 3. Given |
| 4. $\angle 1 \cong \angle 3$ and $\angle 2 \cong \angle 4$ | 4. (Question 13) |
| 5. $\angle 3 \cong \angle 4$ | 5. (Question 14) |

15.

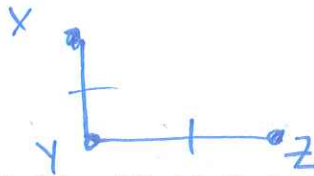
Def'n of
 \angle bisector

16.

Substitution

17. Given: $XY = YZ$

Conjecture: Y is a midpoint of \overline{XZ} .
 Find a counterexample.



* Counter example
 Shows where it
 is not the
 case.

18. Suppose p is true and q is false. What is the truth value of $\sim p \vee \sim q$?

F T
 OR

True

19. Write the converse of the statement *If two lines are perpendicular to the same line, then they are parallel.*

If 2 lines are \parallel then they are \perp to the same line.

20. Use the Law of Detachment to write a valid conclusion for the given information.

- (1) If two angles are supplementary, then their measures have a sum of 180.
- (2) $\angle X$ and $\angle Y$ are supplementary.

$\angle X$ & $\angle Y$ have a sum of 180°

21. Determine whether you can use the Law of Syllogism to reach a valid conclusion from the set of statements.

- (1) If a number is a whole number, then the number is an integer.
- (2) If a number is an integer, then it is a rational number.

Yes, if a number is a whole #, then it is a rational #.

22. Complete the proof below.

Given: $\frac{4x + 6}{2} = 9$

Prove: $x = 3$

| Statements | Reasons |
|----------------------------------|------------------------|
| a. $\frac{4x + 6}{2} = 9$ | a. <u>Given</u> |
| b. $\frac{4x + 6}{2} = 2(9)$ | b. Mult. Prop. |
| c. $4x + 6 = 18$ | c. <u>Substitution</u> |
| d. $4x + 6 - 6 = 18 - 6$ | d. <u>Subtraction</u> |
| e. $4x = 12$ | e. Substitution |
| f. $\frac{4x}{4} = \frac{12}{4}$ | f. Div. Prop. |
| g. $x = 3$ | g. Substitution |

23. Complete the proof below.

Given: Q is between P and R, R is between Q and S, $PR = QS$.

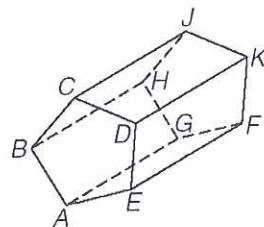


Prove: $PQ = RS$

| Statements | Reasons |
|----------------------------------|-------------------------|
| a. Q is between P and R. | a. Given |
| b. $PQ + QR = PR$ | b. <u>Seg Add Post.</u> |
| c. R is between Q and S. | c. <u>Given</u> |
| d. $QR + RS = QS$ | d. Seg. Add. Post. |
| e. $PR = QS$ | e. <u>Given</u> |
| f. $PQ + QR = QR + RS$ | f. <u>Substitution</u> |
| g. $PQ + QR - QR = QR + RS - QR$ | g. <u>Subtraction</u> |
| h. $PQ = RS$ | h. Substitution |

24. Identify the plane parallel to plane ACE.

plane JKF



25. Which segments are skew to \overline{JK} ?

\overline{BC} , \overline{DE} , \overline{AB} , \overline{AE} , \overline{BH} , \overline{AG} , \overline{EF}

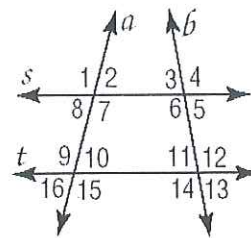
#26 & 27 Identify the special name for each angle pair.

26. $\angle 1$ and $\angle 5$

Alt. EXT \angle 's

27. $\angle 10$ and $\angle 14$

Alt Int. \angle 's



28. Given $s \parallel t$ and $m\angle 1 = 8x - 4$ and $m\angle 15 = 6x + 24$, find x.

$$8x - 4 = 6x + 24$$

$$2x = 28$$

$$x = 14$$

29. If $s \parallel t$ by the Alternate Exterior Angles Theorem, which angle pairs must be congruent?

$$\angle 1 \cong \angle 15$$

$$\angle 4 \cong \angle 14$$

$$\angle 2 \cong \angle 16$$

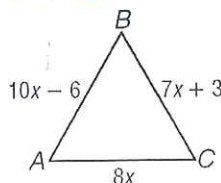
$$\angle 3 \cong \angle 13$$

30. Find x, AB, BC, AC if $\triangle ABC$ is equilateral.

$$10x - 6 = 7x + 3$$

$$3x = 9$$

$$x = 3$$



31. Find the measure of each numbered angle if $m\angle 13 = 4x + 11$, and $m\angle 14 = 3x + 1$.

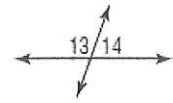
$$4x + 11 + 3x + 1 = 180$$

$$7x + 12 = 180$$

$$x = 24$$

$$4(24) + 11 = 107$$

$$3(24) + 1 = 73$$

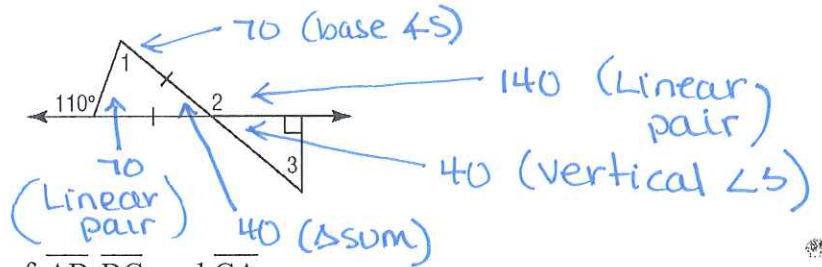


32. Find $m\angle 1$, $m\angle 2$, and $m\angle 3$

$$m\angle 1 = 70$$

$$m\angle 2 = 140$$

$$m\angle 3 = 50$$



33. Points D, E, and F are the midpoints of \overline{AB} , \overline{BC} , and \overline{CA} respectively. Find x , y , and z .

skip from Chris

$$3 = 8 - 5z$$

$$-5 = -5z$$

$$1 = z$$

$$5 = 3y - 1$$

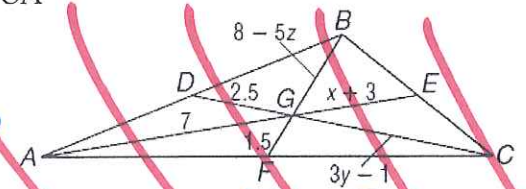
$$6 = 3y$$

$$2 = y$$

$$7 = 2x + 6$$

$$1 = 2x$$

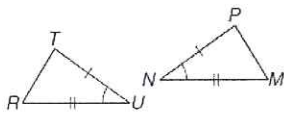
$$1/2 = x$$



From picture:
 G is midpoint
 AG = 7, so AB = 14
 DG = 2.5, so DC = 5

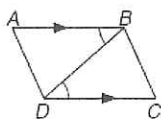
34. Which postulate can be used to prove that the following triangles are congruent?

a.



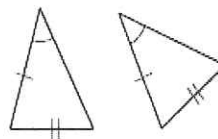
SAS

b.



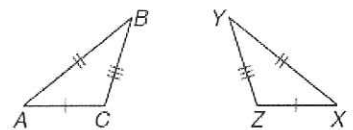
NONE

c.



NONE

d.



SSS



Handwritten red text, possibly a signature or initials, located on the right side of the page.