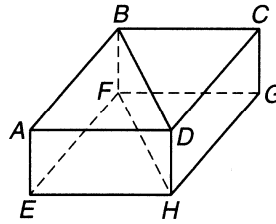


Geometry Chapter 3 Practice Free Response Test

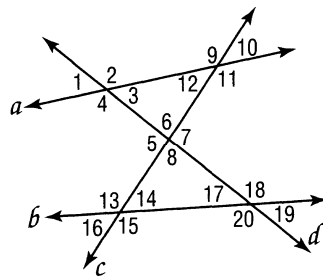
True or False

1. $\overline{DH} \parallel \overline{BF}$
2. \overline{AB} is skew to \overline{CD}
3. \overline{EH} is skew \overline{BD}
4. Plane ABC is parallel to plane EHG
5. \overline{CG} appears to be \perp to \overline{HG}



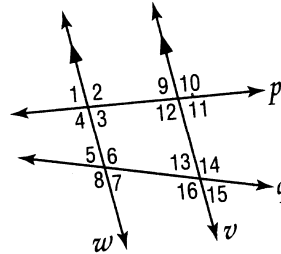
Identify each pair of angles.

6. $\angle 12$ and $\angle 14$
7. $\angle 3$ and $\angle 18$
8. $\angle 1$ and $\angle 17$
9. $\angle 10$ and $\angle 12$
10. $\angle 13$ and $\angle 16$
11. $\angle 9$ and $\angle 15$
12. $\angle 11$ and $\angle 14$



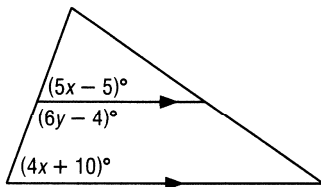
In the figure $m\angle 9 = 80$ and $m\angle 5 = 68$. Find the measure of each angle.

- | | |
|-----------------|-----------------|
| 13. $\angle 12$ | 14. $\angle 1$ |
| 15. $\angle 4$ | 16. $\angle 3$ |
| 17. $\angle 7$ | 18. $\angle 16$ |

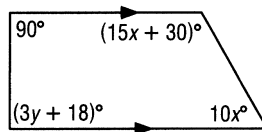


Find x and y in each figure

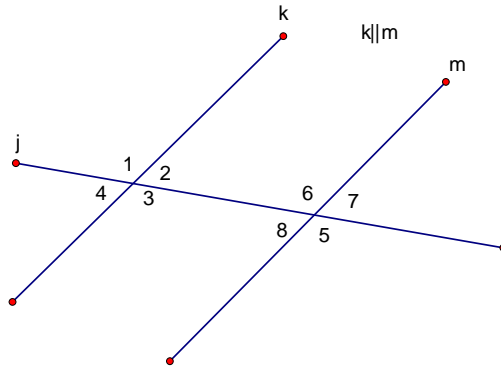
19.



20.



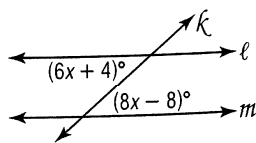
21. Use the figure below to classify each pair of angles. Determine if they are congruent, supplementary or neither.



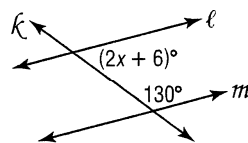
Angles	Name	\cong , supp., neither
$\angle 3$ & $\angle 6$		
$\angle 7$ & $\angle 4$		
$\angle 2$ & $\angle 6$		
$\angle 7$ & $\angle 6$		
$\angle 2$ & $\angle 4$		
$\angle 3$ & $\angle 5$		

Solve for x if $l \parallel m$

22.



23.



Determine whether the lines given are *parallel*, *perpendicular* or *neither*.

24. Line 1: thru points $(-2, 2)$ and $(5, 8)$
Line 2: thru points $(-8, 7)$ and $(-2, 0)$

25. Line 3: thru points $(5, 4)$ and $(-4, -4)$
Line 4: thru points $(-6, -1)$ and $(3, 7)$

26. Write an equation of a line parallel to $y = 2x + 3$ and going through $(2, -2)$.

27. Write an equation of a line perpendicular to $y = -\frac{1}{3}x$ and going through $(-4, 2)$.

Chapter 3 Review Sheet – Answers

1. TRUE 2. FALSE 3. TRUE 4. TRUE 5. TRUE

- | | |
|--------------------------|------------------------------|
| 6. Alternate Interior | 13. $m\angle 12 = 100^\circ$ |
| 7. Consecutive Interior | 14. $m\angle 1 = 80^\circ$ |
| 8. Corresponding | 15. $m\angle 4 = 100^\circ$ |
| 9. Vertical | 16. $m\angle 3 = 80^\circ$ |
| 10. Linear Pair | 17. $m\angle 7 = 68^\circ$ |
| 11. Alternate Exterior | 18. $m\angle 16 = 112^\circ$ |
| 12. Consecutive Interior | |

19. Corresponding angles are congruent so $5x - 5 = 4x + 10$. Solve that equation and we get $x = 15$. Let $x = 15$ and both angles are 20 degrees. So the 20 degree angle is a linear pair with the angle involving y . So $6y - 4 + 20 = 180$. Solve that and $y = 19$.

20. We have consecutive interior angles on both sides of this figure, so they are supplementary. Set up both equations and solve for x and y :

$15x + 30 + 10x = 180$, results in an answer of $x = 6$.

$3y + 18 + 90 = 180$, results in an answer of $y = 24$.

21.

Angles	Name	\cong , supp. , neither
$\angle 3$ & $\angle 6$	Alternate Interior	\cong
$\angle 7$ & $\angle 4$	Alternate Exterior	\cong
$\angle 2$ & $\angle 6$	Consecutive Interior	Supp
$\angle 7$ & $\angle 6$	Linear Pair	Supp
$\angle 2$ & $\angle 4$	Vertical	\cong
$\angle 3$ & $\angle 5$	Corresponding	\cong

22. Alternate Interior angles are congruent, so $6x + 4 = 8x - 8$, thus $x = 6$.

23. Consecutive Interior angles are supplementary, so $2x + 6 + 130 = 180$, thus $x = 22$.

24. The slope of Line 1 is $6/7$, slope of Line 2 is $-7/6$. Opp. reciprocals – *Perpendicular*

25. The slope of Line 1 is $8/9$, slope of Line 2 is $8/9$. Equal slopes – *Parallel*

<p>26. Need $y = mx + b$ $m = 2$, $x = 2$, $y = -2$ so substitute and get, $-2 = 2(2) + b$ and thus $b = -6$ So equation of the line is $y = 2x - 6$</p>	<p>27. Need $y = mx + b$ $m = 3$, $x = -4$, $y = 2$ so substitute and get, $2 = 3(-4) + b$ and thus $b = 14$ So equation of the line is $y = 3x + 14$</p>
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