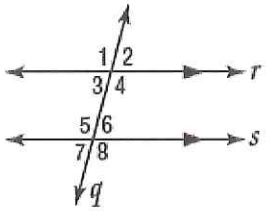
Angle Relationships – Day _____

Name: Key Hour: _____

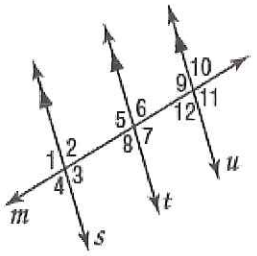
Special Angles and Parallel Lines HW

In the figure, $m\angle 2 = 70$. Find the measure of each angle.



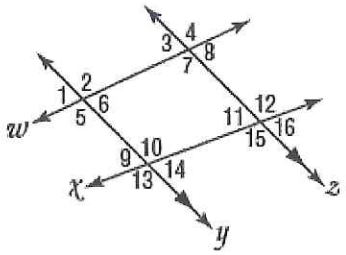
1. $\angle 3$ 70°
2. $\angle 5$ 110°
3. $\angle 8$ 110°
4. $\angle 1$ 110°
5. $\angle 4$ 110°
6. $\angle 6$ 70°

In the figure, $m\angle 7 = 100$. Find the measure of each angle.



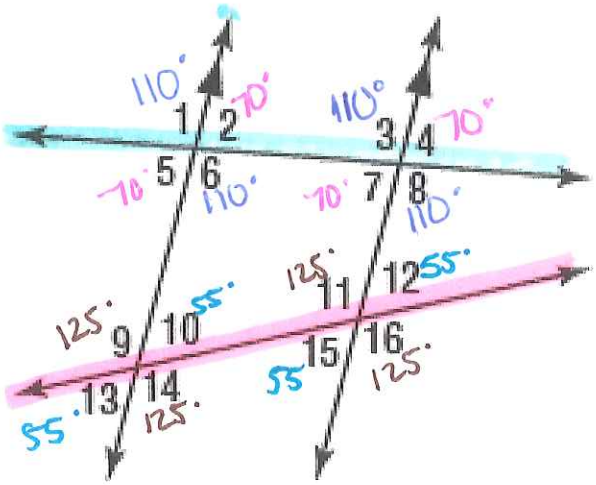
7. $\angle 9$ 100°
8. $\angle 6$ 80°
9. $\angle 8$ 80°
10. $\angle 2$ 80°
11. $\angle 5$ 100°
12. $\angle 11$ 100°

In the figure, $m\angle 3 = 75$ and $m\angle 10 = 115$. Find the measure of each angle.



13. $\angle 2$ 105°
14. $\angle 5$ 105°
15. $\angle 7$ 105°
16. $\angle 15$ 115°
17. $\angle 14$ 65°
18. $\angle 9$ 65°

19. **In the figure, $m\angle 3 = 110$ and $m\angle 12 = 55$. Find the measure of each angle.**



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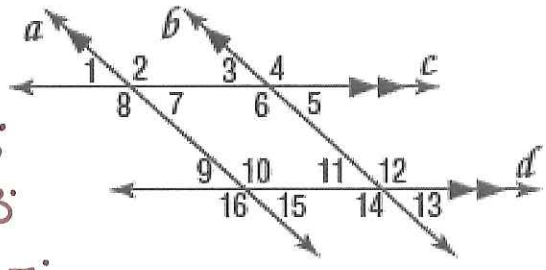
Name: _____ Hour: _____

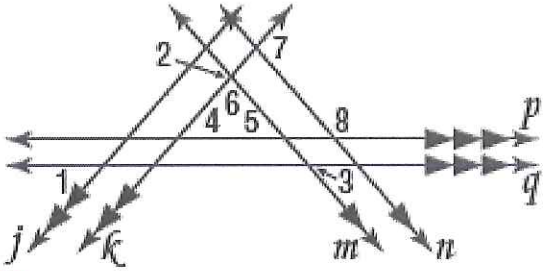
This is out of the book so you don't have to bring it home... You're welcome!

In the figure, $m\angle 3 = 43$. Find the measure of each angle.



7. $\angle 2$ 137°
8. $\angle 7$ 43°
9. $\angle 10$ 137°
10. $\angle 11$ 43°
11. $\angle 13$ 43°
12. $\angle 16$ 137°

In the figure, $m\angle 1 = 50$ and $m\angle 3 = 60$. Find the measure of each angle.



13. $\angle 4$ 50°
14. $\angle 5$ 60°
15. $\angle 2$ 110°
16. $\angle 6$ 70°
17. $\angle 7$ 110°
18. $\angle 8$ 120°

Determine whether $\overleftrightarrow{MN}$ and $\overleftrightarrow{RS}$ are *parallel*, *perpendicular*, or *neither*.

19. $M(-2, 2), N(1, -3), R(-2, 1), S(3, 4)$

Perpendicular!

Slope MN: $-5/3$

Slope RS: $3/5$

2. $M(0, 0), N(2, 4), R(2, 1), S(8, 4)$

Slope MN: 2 neither

Slope RS: $1/2$

20.) Write the equation of a line in slope intercept form which pass through the points A(5.1) and B(8,-2)

1) Find Slope:

$\frac{-2-1}{8-5} = -1$ $m = -1$

2.) Find b ⇒ $-2 = -1(8) + b$

$6 = b$

$y = -x + 6$

Angle Relationships – Day _____

Name: _____ Hour: _____

21.) Write the equation of a line in slope intercept form which pass through the points A(-5,-2) and B(-8,-2)

$y = -2$

22.) Write the equation of a line in slope intercept form which is parallel to $y = -\frac{1}{2}x - 6$ and passes through the point (-3,2).

$m_{\parallel} = -\frac{1}{2}$

Find new b $\quad 2 = -\frac{1}{2}(-3) + b$

$\frac{1}{2} = b$

$y = -\frac{1}{2}x + \frac{1}{2}$

23.) Write the equation of a line in slope intercept form which is parallel to $y = -2x - 7$ and passes through the point (-1,-2).

$m_{\parallel} = -2$

Find b

$-2 = -2(-1) + b$

$-4 = b$

$y = -2x - 4$

24.) Write the equation of a line in slope intercept form which is perpendicular to $2x + y = 5$ and passes through the point (2,-2).

$m = -2$

$m_{\perp} = +\frac{1}{2}$

Find b

$-2 = \frac{1}{2}(2) + b$

$-3 = b$

$y = \frac{1}{2}x - 3$

25.) Write the equation of a line in slope intercept form which is perpendicular to $-\frac{2}{3}x - y = 15$ and passes through the point (0,-15).

Put into slope int form first

$m = -\frac{2}{3}$

$m_{\perp} = \frac{3}{2}$

$y = \frac{3}{2}x - 15$

Angle Relationships – Day _____

Name: _____ Hour: _____

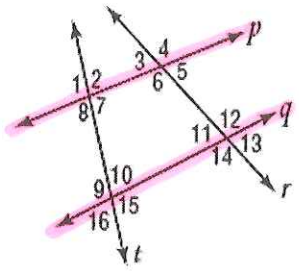
26.) Which of the following conditions verify that $p \parallel q$?

A. $\angle 6 \cong \angle 12$ B. $\angle 2 \cong \angle 4$

C. $\angle 8 \cong \angle 16$ D. $\angle 11 \cong \angle 13$

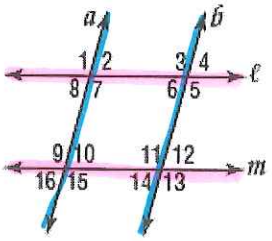
E. $\angle 6$ and $\angle 7$ are supplementary. F. $\angle 1 \cong \angle 15$

G. $\angle 7$ and $\angle 10$ are supplementary. H. $\angle 4 \cong \angle 16$



From Workbook: 3.5 Skills Practice

Given the following information, determine which lines, if any, are parallel. State the postulate or theorem that justifies your answer.



1. $\angle 3 \cong \angle 7$

a ∥ b ≅ alt int ∠s form ∥ lines

2. $\angle 9 \cong \angle 11$ a ∥ b ≅ corr. ∠s form ∥ lines

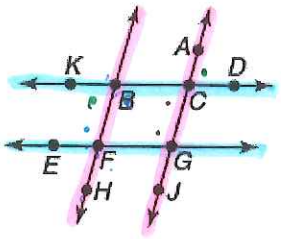
3. $\angle 2 \cong \angle 16$

ℓ ∥ m ≅ alt ext ∠s form ∥ lines

4. $m\angle 5 + m\angle 12 = 180$ ℓ ∥ m suppl. con. int ∠s form ∥ lines

From Workbook: 6.5 Practice

Given the following information, determine which lines, if any, are parallel. State the postulate or theorem that justifies your answer.



1. $m\angle BCG + m\angle FGC = 180$

$\overleftrightarrow{KD} \parallel \overleftrightarrow{EG}$ suppl. con int. ∠s form ∥ lines

2. $\angle CBF \cong \angle GFH$

$\overleftrightarrow{KD} \parallel \overleftrightarrow{EG}$ ≅ corr. ∠s form ∥ lines

3. $\angle EFB \cong \angle FBC$

$\overleftrightarrow{KD} \parallel \overleftrightarrow{EG}$ ≅ alt int ∠s form ∥ lines

4. $\angle ACD \cong \angle KBF$

$\overleftrightarrow{BH} \parallel \overleftrightarrow{CJ}$ ≅ alt. Ext. ∠s form ∥ lines!