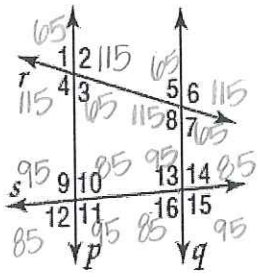
Chapter 3 Test Review Name Answer Key

p∥q

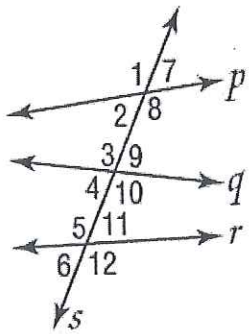
In the figure, m∠2 = 115 and m∠12 = 85. Find the measure of each angle.

1. ∠10 85
2. ∠8 115
3. ∠9 95
4. ∠5 65
5. ∠11 95
6. ∠13 95



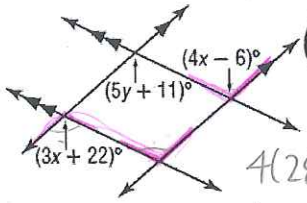
In the figure, determine whether the angles are corresponding, alternate interior, alternate exterior, consecutive interior angles, or a linear pair.

7. ∠3 and ∠12 Alt Ext
8. ∠6 and ∠11 Vertical
9. ∠7 and ∠9 Corresponding
10. ∠2 and ∠3 Cons Int
11. ∠5 and ∠10 Alt Int



Find x and y in each figure.

12.



3x + 22 = 4x − 6

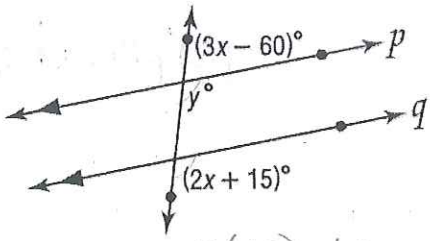
28 = x

4(28) − 6 = 106

106 = 5y + 11

y = 19

13.



3x − 60 + 2x + 15 = 180

5x − 45 = 180

5x = 225

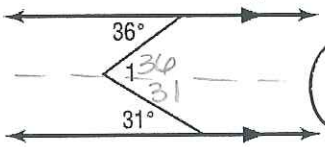
x = 45

3(45) − 60 + y = 180

y = 105

Find m∠1 in each figure.

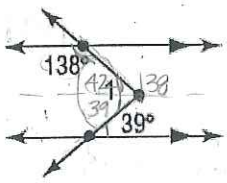
14.



36 + 1 + 31 = 180

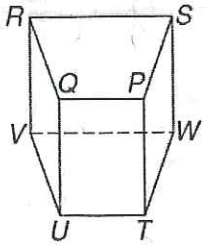
67°

15.



81°

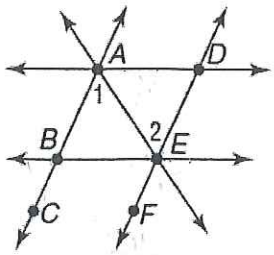
Refer to the figure at the right.



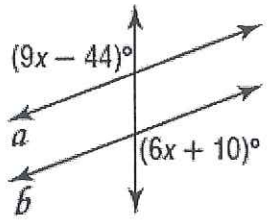
16. Identify 2 parallel planes plane RQP & plane UTP
17. Name a line skew to $\overline{RV}$ $\overline{QP}$, $\overline{PS}$, $\overline{UT}$ $\overline{TW}$
18. How many lines are parallel to $\overline{RV}$? 3
19. Name a plane that intersects plane RQP. plane QPT

Given the following information, determine which lines, if any, are parallel. State which angle relationship proves it.

	Parallel	∠ Relationship
20. $\angle 1 \cong \angle 2$	$\overleftrightarrow{AB} \parallel \overleftrightarrow{DE}$	Alt Int ∠s
21. $\angle DAB \cong \angle EBC$	$\overleftrightarrow{AD} \parallel \overleftrightarrow{BE}$	Corresponding ∠s
22. $m\angle ADE + m\angle BED = 180$	$\overleftrightarrow{AD} \parallel \overleftrightarrow{BE}$	Cons Int ∠s



23. Find x so that a || b.



$9x - 44 = 6x + 10$

$3x = 54$

$x = 18$

Determine whether $\overleftrightarrow{QV}$ and $\overleftrightarrow{RM}$ are parallel, perpendicular, or neither.

24. Q(-3, -8), V(5, 12), R(-2.5, 1), M(-5, 2)

$\frac{12 - -8}{5 - -3} = \frac{20}{8} = \frac{5}{2}$ $\quad \frac{2-1}{-5 - 2.5} = \frac{1}{-2.5} \times \frac{2}{2} = \frac{2}{-5}$

perpendicular

25. Q(-2, 4.5), V(4, 9), R(-4, -12), M(10, -1.5)

$\frac{9 - 4.5}{4 - -2} = \frac{4.5}{6} \times \frac{2}{2} = \frac{9}{12} = \frac{3}{4}$ $\quad \frac{-12 + 1.5}{-4 - 10} = \frac{-10.5}{-14} \times \frac{2}{2} = \frac{-21}{-28} = \frac{3}{4}$

parallel

26. Write an equation in slope-intercept form for a line with m = 4 and a y-intercept of -3.

$y = 4x - 3$

27. Write an equation in point-slope form for a line with a slope of 2 and contains the point (3, 1)

$y - 1 = 2(x - 3)$

28. Write an equation of a line in slope-intercept form containing (-3, 13) and (6, -5).

$\frac{13 - -5}{-3 - 6} = \frac{18}{-9} = -2$ $\quad y + 5 = -2(x - 6)$

$y + 5 = -2x + 12$

$y = -2x + 7$

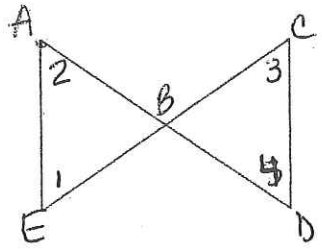
Be sure to look over the proofs that we have done in class!!

NAME:_____ DATE:_____ HOUR:_____

Chapter 3 Test Review: Proofs

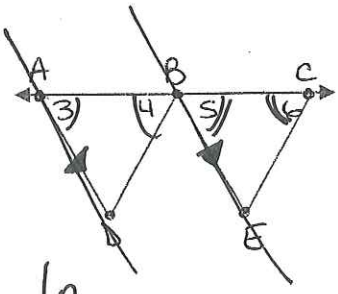
For each of the following complete the 2-column proof.

1) Given: $\angle 1 \cong \angle 2$
$\angle 1 \cong \angle 4$
Prove $\overline{AE} \parallel \overline{CD}$



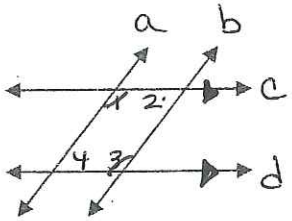
Statements	Reasons
1. $\angle 1 \cong \angle 2$, $\angle 1 \cong \angle 4$	1. Given
2. $\angle 2 \cong \angle 4$	2. Transitive
3. $\overline{AE} \parallel \overline{CD}$	3. Converse of alt Int $\angle$s Thm

2) Given: $\overline{AD} \parallel \overline{BE}$
$\angle 3 \cong \angle 4$
$\angle 5 \cong \angle 6$
Prove: $\overline{BD} \parallel \overline{CE}$



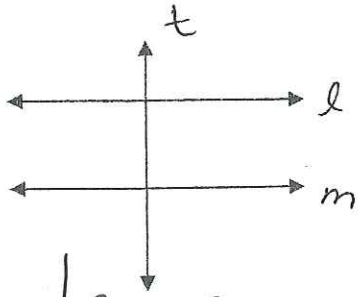
Statements	Reasons
1. $\overline{AD} \parallel \overline{BE}$, $\angle 3 \cong \angle 4$, $\angle 5 \cong \angle 6$	1. Given
2. $\angle 3 \cong \angle 5$	2. Corr $\angle$s post
3. $\angle 5 \cong \angle 4$	3. Substitution
4. $\angle 6 \cong \angle 4$	4. Transitive
5. $\overline{BD} \parallel \overline{CE}$	5. Converse of corr $\angle$s Post

3) Given: $d \parallel c$
$\angle 1 \cong \angle 3$
Prove: $a \parallel b$



Statements	Reasons
1. $d \parallel c$, $\angle 1 \cong \angle 3$	Given
2. $m\angle 2 + m\angle 3 = 180$, $m\angle 1 + m\angle 4 = 180$	2. Cons Int $\angle$s thm
3. $m\angle 3 + m\angle 4 = 180$	3. Substitution
4. $a \parallel b$	4. Converse cons Int $\angle$s Thm

4) Given: $l \perp t$
$m \perp t$
Prove: $l \parallel m$



Statements	Reasons
1. $l \perp t$, $m \perp t$	1. Given
2. $l \parallel m$	2. Converse of $\perp$ transversal Thm