

Transversals – Proving Lines Parallel

Hw Section 3.3

Name _____

Directions 1-3: Which segments/lines are parallel. JUSTIFY your answer.

1)

$\overleftrightarrow{BE} \parallel \overleftrightarrow{CG}$

Converse to the corresponding angles postulate

2)

$\overleftrightarrow{SP} \parallel \overleftrightarrow{TQ}$

Converse to the corresponding angles postulate

3)

$\overleftrightarrow{KR} \parallel \overleftrightarrow{MT}$

Converse to the corresponding angles postulate

Directions: Find the measure of the indicated angle that makes lines u and v parallel.

4)

$x + 120 = 180$
 $x = 60$

5)

$x = 93$

6)

$x = 105$

7)

$x = 79$

Directions: Find the values of x that will make lines u and v parallel.

8)

$x + 111 = 100$
 $x = -11$

9)

$19x + 6 = 120$
 $19x = 114$
 $x = 6$

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10)

$(x+66) + (x+126) = 180$
 $2x + 192 = 180$
 $2x = -12$
 $x = -6$

11)

$x + 113 = 104$
 $x = -9$

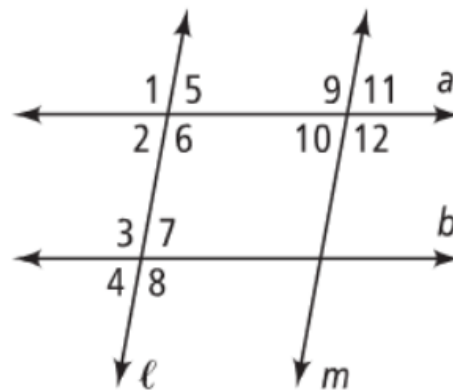
Directions: Use the following diagram to determine which lines (if any are parallel). State the postulate or theorem that justifies your answer.

12) $\angle 2$ is supplementary to $\angle 3$ $a \parallel b$
 Converse to Consecutive Interior \angle s Theorem

13) $\angle 9 \cong \angle 12$
 None

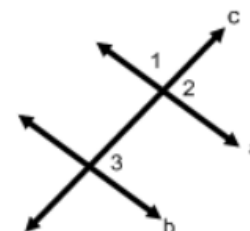
14) $\angle 5 \cong \angle 10$ $\ell \parallel m$
 Converse to Alternate Interior \angle s Theorem

15) $\angle 7 \cong \angle 11$
 None



Complete the following flow proof.

Given: $\angle 1$ and $\angle 3$ are supplementary
 Prove: $a \parallel b$



$\angle 1$ and $\angle 3$ are supplementary
 a. GIVEN

d. $\angle 2 \cong \angle 3$
 Supplements of the same angle are congruent

b. $\angle 1$ and $\angle 2$ are a linear pair
 Def. of a linear pair.

$\angle 1$ and $\angle 2$ are supplementary
 c. Supplement Theorem

$a \parallel b$
 e. Converse to Corresponding \angle s Postulate

Algebra Review

Solve: $7 = 4x - 5$

$12 = 4x$
 $3 = x$

Solve: $10x - 16 = 2x + 8$

$8x - 16 = 8$
 $8x = 24$
 $x = 3$

Multiply: $5x^2(2x^2 - 7)$

$= 10x^4 - 35x^2$