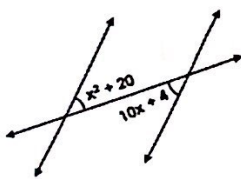


3.5 More Practice

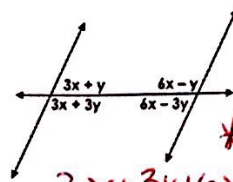
Name: Answer Key

Period: _____

1. Find the value of the variables that will make the lines parallel.



$$\begin{aligned}
 x^2 + 20 &= 10x + 4 \\
 x^2 - 10x + 16 &= 0 \\
 (x - 8)(x - 2) &= 0 \\
 \boxed{x = 8} \quad \boxed{x = 2}
 \end{aligned}$$



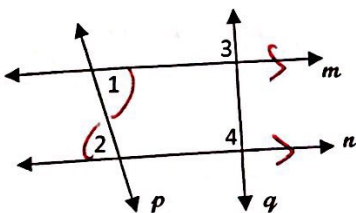
$$\begin{aligned}
 \begin{cases} 3x + y = 6x - 3y \\ 3x + 3y = 6x - y \end{cases} \\
 \begin{cases} -3x + 4y = 0 \\ -3x + 4y = 0 \end{cases}
 \end{aligned}$$

* 60 supplementary

$$\begin{aligned}
 3x + 3y + 6x - 3y &= 180 \\
 9x &= 180 \\
 x &= 20 \\
 -3(20) + 4y &= 0 \\
 -60 + 4y &= 0 \\
 4y &= 60 \\
 y &= 15
 \end{aligned}$$

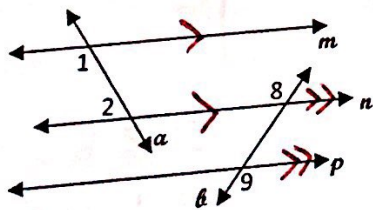
Write two column proofs:

Given: $\angle 1 \cong \angle 2$
 Prove: $\angle 3 \cong \angle 4$



Statements	Reasons
① $\angle 1 \cong \angle 2$ diagram	① Given
② $\angle 1$ and $\angle 2$ are alt. int. \angle s	② Assumed by diagram
③ $m \parallel n$	③ IF alt int \angle s are \cong , then the lines are \parallel .
④ $\angle 3$ and $\angle 4$ are corresponding \angle s	④ Assumed by diagram
⑤ $\angle 3 \cong \angle 4$	⑤ IF lines are \parallel , then corresponding \angle s are \cong .

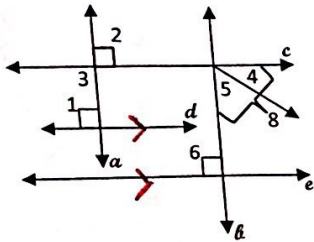
3. Given: $\angle 1$ & $\angle 2$ are supp, $\angle 8 \cong \angle 9$
 Prove: $m \parallel p$



Statements	Reasons
① $\angle 1$ and $\angle 2$ are supp $\angle 8 \cong \angle 9$ diagram	① Given
② $\angle 1$ and $\angle 2$ are consecutive int \angle s $\angle 8$ and $\angle 9$ are alt. exterior \angle s	② Assumed by diagram
③ $m \parallel n$	③ IF consecutive int \angle s are supp, then the lines are \parallel
④ $n \parallel p$	④ IF alt. Exterior \angle s are \cong , then the lines are \parallel .
⑤ $m \parallel p$.	⑤ IF two lines are \parallel to a third, then they are \parallel to each other.

3.5 Proving Lines Parallel

4. Given: $d \parallel e$, Diagram
 Prove: $\angle 4$ & $\angle 5$ are comp.



Statements	Reasons
① $d \parallel e$ diagram	① Given
② $\angle 1$ and $\angle 2$ and $\angle 6$ are rt \angle 's	② Assumed by diagram
③ $a \perp d$ $a \perp e$ $b \perp c$	③ IF lines form a rt \angle , then they are perpendicular.
④ $c \parallel d$	④ IF 2 lines are \perp to a third line, then they are \parallel .
⑤ $c \parallel e$	⑤ IF 2 lines are \parallel to a third line, then they are \parallel to each other.
⑥ $\angle 6$ and $\angle 8$ are alt. int. \angle 's	⑥ Assumed by diagram
⑦ $\angle 6 \cong \angle 8$	⑦ IF lines are \parallel , then alt. int. \angle 's are \cong .
⑧ $m\angle 6 = m\angle 8$	⑧ IF \angle 's are \cong , then they have = measure
⑨ $m\angle 6 = 90^\circ$	⑨ IF an \angle is rt, then its measure = 90°
⑩ $m\angle 8 = m\angle 4 + m\angle 5$	⑩ Angle Addition Post.
⑪ $90^\circ = m\angle 4 + m\angle 5$	⑪ Substitution (8) & (9)
⑫ $\angle 4$ and $\angle 5$ are comp	⑫ IF 2 \angle 's measure sum to 90° , then they are comp.