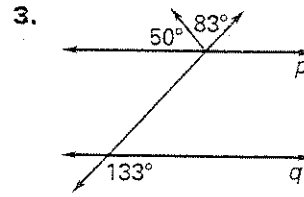
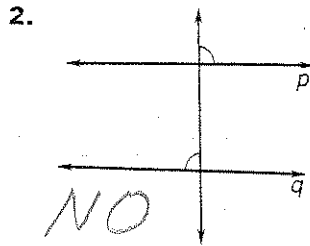
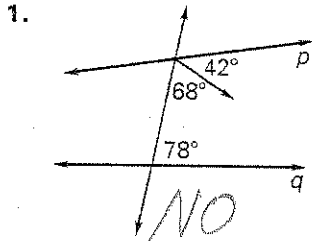
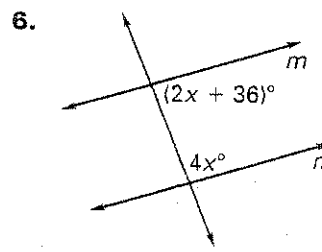
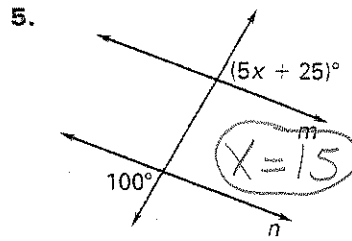
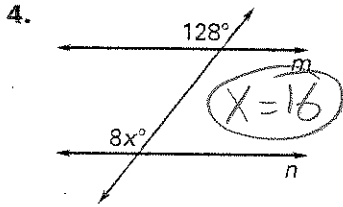


Is there enough information to prove that lines p and q are parallel? If so, state the postulate or theorem you would use.



$p \parallel q$ Alternate Exterior Angles Theorem

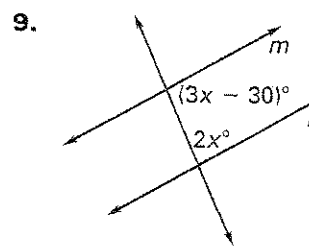
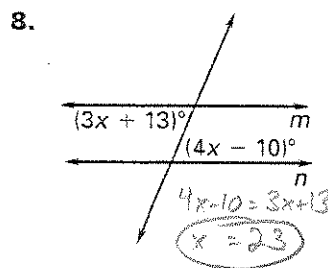
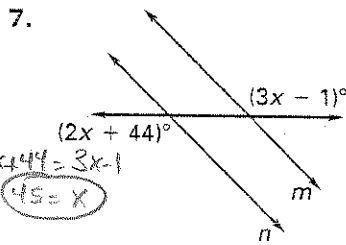
Find the value of x that makes $m \parallel n$.



$$6x + 36 = 180$$

$$6x = 144$$

$$x = 24$$



$$5x - 30 = 180$$

$$5x = 210$$

$$x = 42$$

In Exercises 10–14, use the diagram and the given information to determine if $m \parallel n$, $p \parallel q$, or neither.

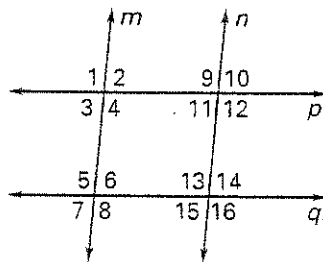
10. $\angle 3 \cong \angle 10$ $m \parallel n$

11. $\angle 1 \cong \angle 13$ Neither

12. $\angle 4 \cong \angle 11$ neither

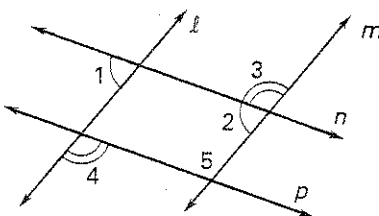
13. $\angle 12 \cong \angle 13$ $p \parallel q$

14. $\angle 3 \cong \angle 14$ neither



4. GIVEN: $\angle 1 \cong \angle 2$, $\angle 3 \cong \angle 4$

PROVE: $n \parallel p$

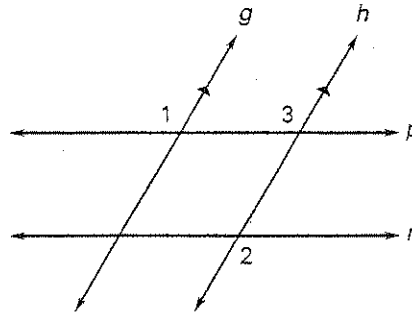


Statements	Reasons
① $\angle 1 \cong \angle 2$; $\angle 3 \cong \angle 4$	① Given
② $l \parallel m$	② Corresponding angles $\cong \Rightarrow \parallel$ lines
③ $\angle 4 \cong \angle 5$	③ Alternate Interior angles Theorem
④ $\angle 3 \cong \angle 5$	④ Transitive
⑤ $n \parallel p$	⑤ Corresponding \angle 's $\cong \Rightarrow \parallel$ Lines

In Exercises 14–18, complete the two-column proof.

GIVEN: $g \parallel h$, $\angle 1 \cong \angle 2$

PROVE: $p \parallel r$

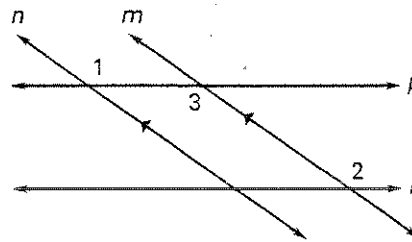


Statements	Reasons
$g \parallel h$	14. <u> </u> ? <u>Given</u>
$\angle 1 \cong \angle 3$	15. <u> </u> ? <u>Corresponding Angles Postulate</u>
$\angle 1 \cong \angle 2$	16. <u> </u> ? <u>Given</u>
$\angle 2 \cong \angle 3$	17. <u> </u> ? <u>Transitive</u>
$p \parallel r$	18. <u> </u> ? <u>Alternate Exterior $\angle^s \cong \Rightarrow \parallel$ Lines</u>

In Exercises 19–23, complete the two-column proof.

GIVEN: $n \parallel m$, $\angle 1 \cong \angle 2$

PROVE: $p \parallel r$



Statements	Reasons
$n \parallel m$	19. <u> </u> ? <u>Given</u>
$\angle 1 \cong \angle 3$	20. <u> </u> ? <u>Alternate Interior Angles Theorem</u>
$\angle 1 \cong \angle 2$	21. <u> </u> ? <u>Given</u>
$\angle 2 \cong \angle 3$	22. <u> </u> ? <u>Transitive</u>
$p \parallel r$	23. <u> </u> ? <u>AIA $\cong \Rightarrow \parallel$ Lines</u>