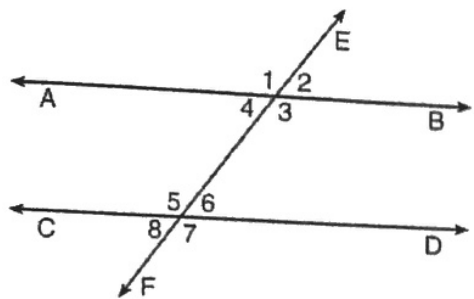


Transversal EF intersects AB and CD , as shown in the diagram below.



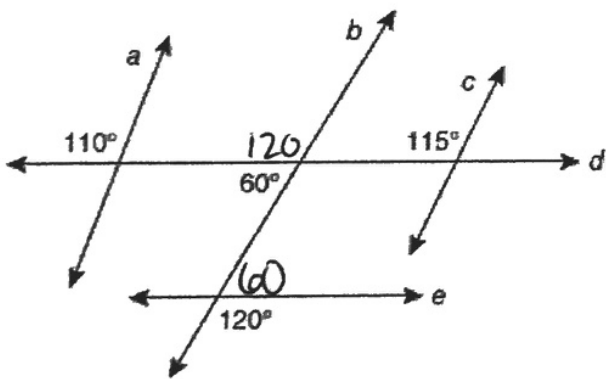
Which statement could always be used to prove $AB \parallel CD$?

- 1) $\angle 2 \cong \angle 4$
- 2) $\angle 7 \cong \angle 8$
- 3) $\angle 3$ and $\angle 6$ are supplementary
- 4) $\angle 1$ and $\angle 5$ are supplementary

2 A transversal intersects two lines. Which condition would always make the two lines parallel?

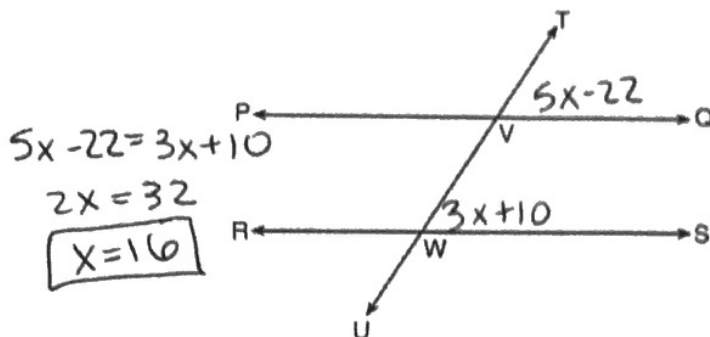
- 1) Vertical angles are congruent.
- 2) Alternate interior angles are congruent.
- 3) Corresponding angles are supplementary.
- 4) Same-side interior angles are complementary.

3 Based on the diagram below, which statement is true?



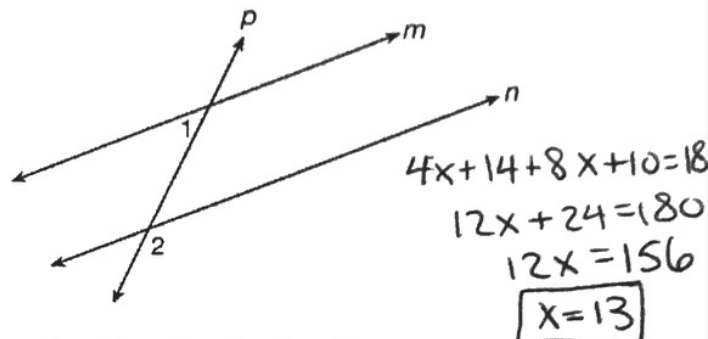
- 1) $a \parallel b$
- 2) $a \parallel c$
- 3) $b \parallel c$
- 4) $d \parallel e$

4 In the diagram below, transversal TU intersects PQ and RS at V and W , respectively.



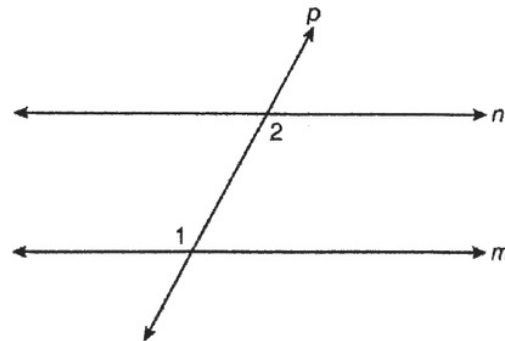
If $m\angle TVQ = 5x - 22$ and $m\angle VWS = 3x + 10$, for which value of x is $PQ \parallel RS$?

5 As shown in the diagram below, lines m and n are cut by transversal p .



If $m\angle 1 = 4x + 14$ and $m\angle 2 = 8x + 10$, lines m and n are parallel when x equals what number?

6 In the diagram below, line p intersects line m and line n .



If $m\angle 1 = 7x$ and $m\angle 2 = 5x + 30$, lines m and n are parallel when x equals

- 1) 12.5
- 2) 15
- 3) 87.5
- 4) 105

Handwritten work for Question 6:
 $7x = 5x + 30$
 $2x = 30$
 $x = 15$