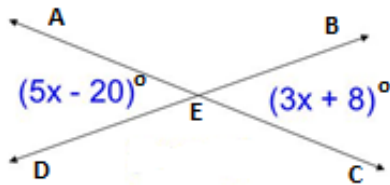


REASON BANK

| | |
|---|--|
| Addition Property Alternate Interior Angles Theorem Alternate Interior Angles Converse Theorem Alternate Exterior Angles Theorem Alternate Exterior Angles Converse Theorem Combine Like Terms Consecutive Interior Angles Theorem Consecutive Interior Angles Converse Theorem Corresponding Angles Postulate Corresponding Angles Converse Postulate | Division Property Distributive Property Given Linear Pair Postulate Multiplication Property Simplification Substitution Property Subtraction Property Transitive Property Vertical Angles Theorem |
|---|--|

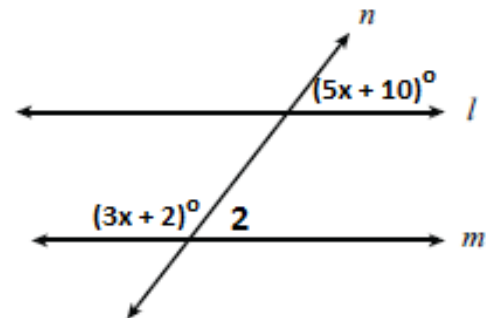
1. Given: $m\angle AED = (5x - 20)^\circ$ and $m\angle BEC = (3x + 8)^\circ$
 Prove: $m\angle BEC = 50^\circ$



| Statements | Reasons |
|--------------------------------------|----------------------------|
| 1. | 1. Given |
| 2. | 2. Vertical Angles Theorem |
| 3. | 3. |
| 4. | 4. |
| 5. $x = 14$ | 5. |
| 6. $m\angle BEC = (3(14) + 8)^\circ$ | 6. |
| 7. $m\angle BEC = 50^\circ$ | 7. |

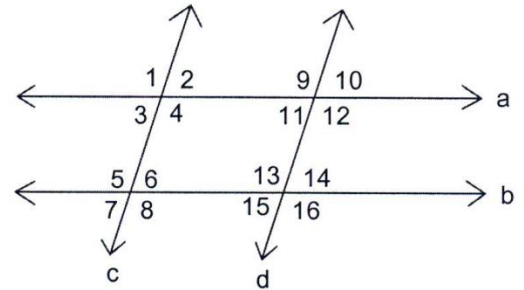
2. Given: $l \parallel m$. Please solve for x .

| Statements | Reasons |
|---|-----------------------|
| 1. $l \parallel m$ | 1. Given |
| 2. $m\angle 2 = (5x + 10)^\circ$ | 2. |
| 3. $(3x + 2)^\circ + (5x + 10)^\circ = 180^\circ$ | 3. |
| 4. | 4. Combine Like Terms |
| 5. $8x = 168$ | 5. |
| 6. | 6. |



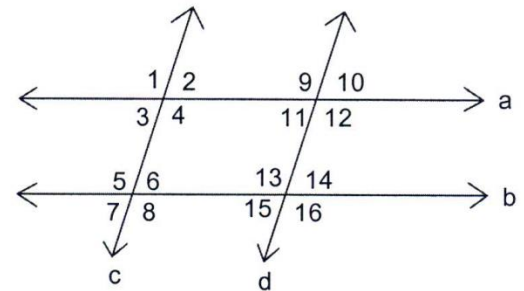
3. Given: $a \parallel b, c \parallel d, \angle 1 \cong \angle 12$
 Prove: $\angle 1 \cong \angle 13$

| Statements | Reasons |
|-----------------------------------|----------|
| 1. $a \parallel b, c \parallel d$ | 1. Given |
| 2. $\angle 1 \cong \angle 12$ | 2. |
| 3. $\angle 12 \cong \angle 13$ | 3. |
| 4. $\angle 1 \cong \angle 13$ | 4. |



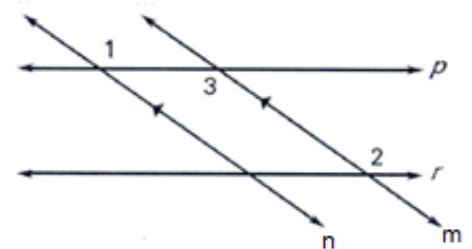
4. Given: $a \parallel b$
 Prove: $m\angle 9 + m\angle 14 = 180$

| Statements | Reasons |
|-----------------------------------|----------|
| 1. $a \parallel b$ | 1. Given |
| 2. $m\angle 9 + m\angle 11 = 180$ | 2. |
| 3. $m\angle 11 \cong m\angle 14$ | 3. |
| 4. $m\angle 9 + m\angle 14 = 180$ | 4. |

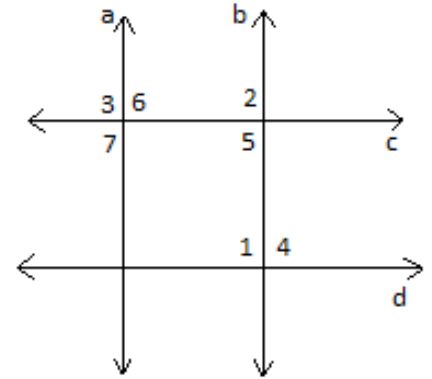


5. Given: $n \parallel m, \angle 1 \cong \angle 2$
 Prove: $p \parallel r$

| Statements | Reasons |
|------------------------------|------------------------------|
| 1. | 1. |
| 2. | 2. Alt. Interior Angles Thm. |
| 3. $\angle 2 \cong \angle 3$ | 3. |
| 4. $p \parallel r$ | 4. |

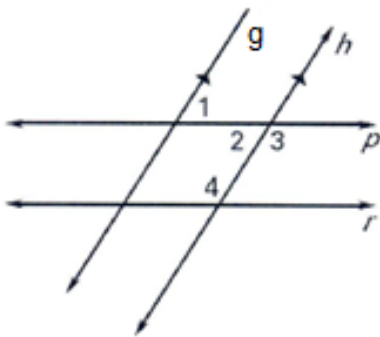


6. Given: $a \parallel b, c \parallel d$
 Prove: $\angle 7 \cong \angle 4$



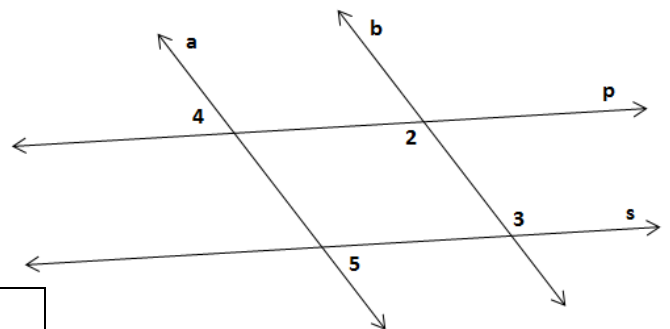
| Statements | Reasons |
|------------------------------|---------|
| 1. | 1. |
| 2. $\angle 7 \cong \angle 5$ | 2. |
| 3. $\angle 5 \cong \angle 4$ | 3. |
| 4. | 4. |

7. Given: $g \parallel h, \angle 1$ and $\angle 4$ are supplementary
 Prove: $p \parallel r$



| Statements | Reasons |
|--|----------|
| 1. | 1. Given |
| 2. $\angle 1 \cong \angle 2$ | 2. |
| 3. $\angle 2$ and $\angle 4$ are supplementary | 3. |
| 4. $p \parallel r$ | 4. |

8. Given: $\angle 4 \cong \angle 5$
 Prove $\angle 2 \cong \angle 3$



| Statements | Reasons |
|------------------------------|---------|
| 1. | 1. |
| 2. $p \parallel s$ | 2. |
| 3. $\angle 2 \cong \angle 3$ | 3. |