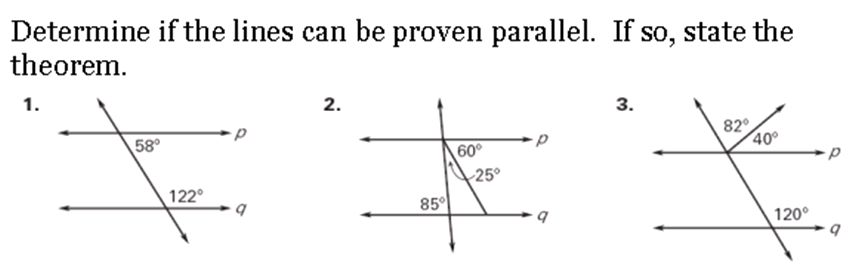
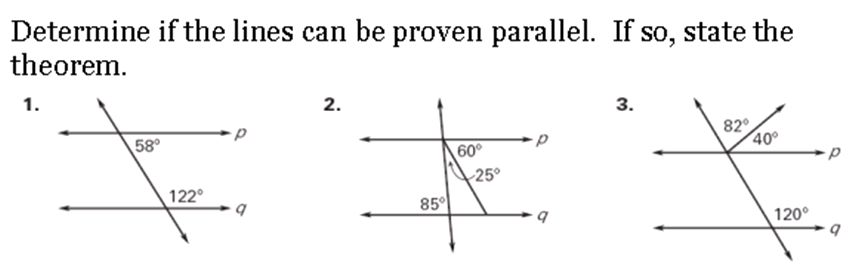
**Follow along and fill in the missing blanks for each theorem. Then, based on the theorem, use the given theorem to determine if the lines are parallel or not parallel. Provide reasoning.**

|  |  |
| --- | --- |
| **Corresponding Angles Converse Theorem:** If 2 lines are cut by a transversal so the corresponding angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then the lines are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | |
| **Example:**  2  6  j  k | **Non Example:**  3  6  l  k |
|  |  |
| **Alternate Interior Angles Converse Theorem:** If 2 lines are cut by a transversal so the alternate interior angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then the lines are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | |
| **Example:**  25°  j  k  105°  130° | **Non Example:**  92°  l  k  88° |
|  |  |
| **Alternate Exterior Angles Converse Theorem:** If 2 lines are cut by a transversal so the alternate exterior angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then the lines are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | |
| **Example:**  j  k | **Non Example:**  28°  l  k  106°  137° |
|  |  |
| **Consecutive Interior Angles Converse Theorem:** If 2 lines are cut by a transversal so the consecutive interior angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then the lines are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | |
| **Example:**  96°  j  k  84° | **Non Example:**  H  K  J  I |

|  |  |
| --- | --- |
| **Consecutive Exterior Angles Converse Theorem:** If 2 lines are cut by a transversal so the consecutive exterior angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then the lines are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | |
|  |  |
| **Transitive Property of Parallel Lines:** | |
| **Example:**  u  t  p |  |

**Is it possible to prove the lines areparallel or not parallel? If so, state the postulate or theorem you would use. If not, state cannot be determined.**



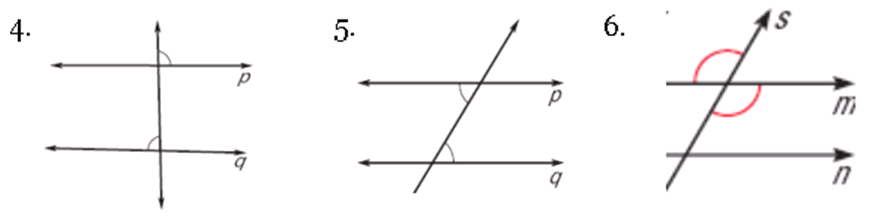
92°

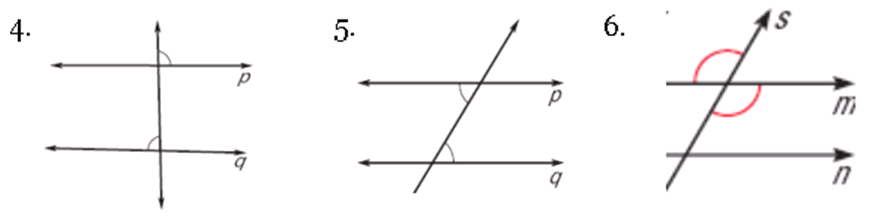
l

k

88°

**1. 2. 3.**





l

k

**4. 5. 6.**

**7. 8. 9.**

105°

75°

A

B

C

D

122°

l

k

58°

m

55°

55°

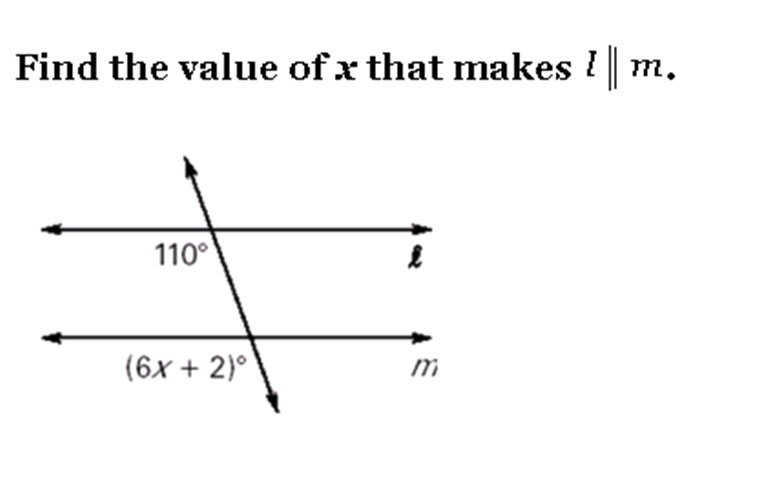
E

F

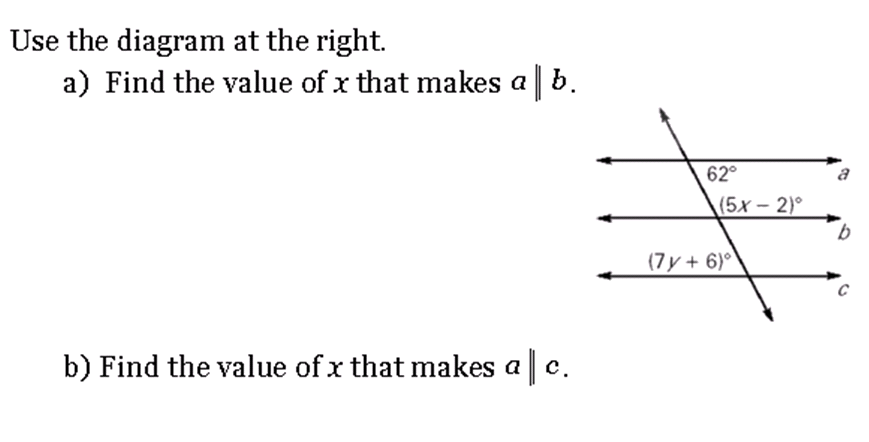
G

H

I

**10. Find the value of *x* that makes l // m.**

**11. a. Find the value of *x* that makes a // b. b. Find the value of *y* that makes a // c.**



**c. Is b // c? Why or why not?**

**State the postulate or theorem that supports each conclusion.**

a

b

1. Given: a || b \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Conclusion: 2 ≅ 7

6

5

8

7

1

2

2. Given: m4 + m7 = 180 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4

3

Conclusion: a || b

3. Given: 4 ≅ 5 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Conclusion: a || b

**Find the values of x and y. Explain your reasoning by stating the proper theorem or postulate.**

130

x

4. x = y =

y

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

65

y

x

5. x = y =

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. x = y = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

80

y

x

**Find the value of x so that *n || m.* State the theorem or postulate that justifies your solution.**

n

m

n

5x-18

5x

n

7.8.9.

m

8x-5

7x+13

5x+23

3x+48

m

**x = x = x =**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Can you prove that lines p and q are parallel? If so, state the theorem or postulate that you would use.**

q

p

q

p

p

10.11.12.

q

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_