**MAT 221** **Ch 1.5: Patterns – The Beauty of Mathematics**

**Fill in the missing pieces. (You can assume there is a pattern):**

$\_\_ \cdot 8 + 1 = 9$

$\_\_\_ \cdot 8 + 2 = 98$

$\_\_\_\_ \cdot 8 + 3 = 987$

$\_\_\_\_\_ \cdot 8 + \_\_ =$

$\_\_\_\_\_ \cdot 8 + \_\_ =$

$123456 \cdot 8 + \_\_ =$

$1234567 \cdot 8 + \_\_ =$

$1234567\ 8 \cdot 8 + \_\_ =$

$1234567\ 89 \cdot 8 + 9 = 987654321$

$\_\_ \cdot 9 + 7 = 88$

$\_\_\_ \cdot 9 + 6 = 888$

$\_\_\_\_ \cdot 9 + \_\_ =$

$\_\_\_\_\_ \cdot 9 + \_\_ =$

$\_\_\_\_\_ \cdot 9 + \_\_ =$

$987654 \cdot 9 + \_\_ =$

$9876543 \cdot 9 + \_\_ =$

$98765432 \cdot 9 + 0 = 888888888$

$\_\_ \cdot 9 + 2 = 11$

$\_\_\_ \cdot 9 + 3 = 111$

$\_\_\_\_ \cdot 9 + \_\_ =$

$\_\_\_\_\_ \cdot 9 + \_\_ =$

$\_\_\_\_\_ \cdot 9 + \_\_ =$

$123456 \cdot 9 + \_\_ =$

$1234567 \cdot 9 + \_\_ =$

$1234567\ 8 \cdot 9 + \_\_ =$

$1234567\ 89 \cdot 9 + 10 = 1111111111$

$1 \cdot 1 = 1$

$11 \cdot 11 = 121$

$111 \cdot 111 = 12321$

$1111 \cdot 1111 = 1234321$

$11111 \cdot 11111 =$

$111111 \cdot 111111 =$

$1111111 \cdot 1111111 =$

$11111111 \cdot 11111111 =$

$111111111 \cdot 111111111 =$