IB Math 1 6E Polynomial Theorems

1a. Find the quotient and remainder: 

b. Given , find .

**The Remainder Theorem**

When  is divided by , the remainder is \_\_\_\_\_\_\_.

**The Factor Theorem**

k is a zero of  if and only if \_\_\_\_\_\_\_ is a factor of .

**The Fundamental Theorem of Algebra**

Every polynomial of degree n has exactly \_\_\_ roots

(some may be \_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_).

2. When  is divided by , the

result is  with remainder .

When  is divided by , the remainder is 29.

When  is divided by , the remainder is -16.

Find 

3. Fully factor  if  is a factor.