Topic 8.2 Name: _____

The Remainder and Factor Theorems Date: _____

Homework

Divide using synthetic division and write your answer in the form dividend = quotient • divisor + remainder.

1. $(x^3+4x^2-6x+4)\div(x-1)$

2. $(2x^3+4x+8)\div(x+2)$

3. $(x^2+8x-10)\div(x+3)$

4. $(3x^4-6x^3-2x^2+1)\div(x-2)$

Use synthetic substitution to find f(3) for each function.

5. $f(x)=x^2-4x+5$

6. $f(x)=x^3+3x+4$

Given a polynomial and one of its factors, find the remaining factors of the polynomial.

7. x^3+4x^2+x-6 ; x + 2

8. $6x^3+35x^2+47x+12$; 2x + 3

9. $x^3-10x^2+31x-30$; x – 3

10. $2x^3-9x^2-23x+30$; x – 6