Practice worksheet | Real Polynomials

Polynomial identities and coefficient comparison

Name: _____ Date: _____

6 questions | 13 marks

1. Find a, b if $(x+1)(x+a) \equiv x^2 + 5x + b$. [2 marks]

2. Find a, b if $(2x-1)(x^2+ax+b) \equiv 2x^3 + 3x^2 - 4x + 1$. [2 marks]

3. Find A, B if $5x - 1 \equiv A(x+1) + B(x-2)$. [2 marks]

4. A student claims $x^3 - x \equiv 0$ because it is zero at $-1, 0, 1$. Explain the error. [2 marks]

5. Find a, b, c if $ax^2 + bx + c \equiv (x-2)^2 + 3(x+1)$. [2 marks]

6. Two polynomials of degree at most 2 agree at three distinct inputs. Must they be identical? Explain. [3 marks]