Lesson 4

AN5 Demonstrate an understanding of common factors and trinomial factoring, concretely, pictorially and symbolically.

Common Factoring Review

Recall:

Common factoring is the opposite procedure from multiplying by a constant or monomial.

To factor a polynomial using common factoring the greatest common factor of the terms in the polynomial is found. Each of the terms of the polynomial is divided by the GCF. The GCF is placed before a set of brackets containing the polynomial that results after division.

For example:

Factor : 6x + 8

The GCF of 6x and 8 is 2

6x÷2 = 3x

8÷2 = 4

So 6x + 8 = 2( 3x +4)

Ex 2: The GCF may contain variables

25x2 + 10 x

The GCF is 5x

25x2 ÷ 5x = 5x

10x ÷ 5x = 2

25x2 + 10 x = 5x( 5x + 2)

Ex 3: Factor the trinomial

14x3 – 21x2 + 7x

The GCF is 7x

14x3 ÷ 7x = 2x2

21x2÷ 7x = 3x

7x ÷ 7x = 1

14x3 – 21x2 + 7x = 7x( 2x2 -3x +1)

Ex 4 : -8xy -+ 4x2y

GCF is -4xy ( if the first term is negative the GCF is negative)

-8xy ÷ -4xy = 2

4x2y ÷ -4xy = -x

-8xy -+ 4x2y = -4xy( 2 – x)

Ex 5:

Simplify each expression, then factor.

5x2 + 3x -7 + x2 – 6x -5

Simplify – Combine like terms

5x2 + x2 + 3x – 6x -7 -5

6x2 -3x – 12

Then factor

GCF = 3

6x2 ÷ 3 =2x2

-3x÷ 3 = -x

-12÷ 3 = -4

6x2 -3x – 12= 3( 2x2 -x -4)

Practice Questions From Book p.180 #2 ( tiles not required) & p.155-156 #14, 15(b) & 16