

March 12, 2012

Set out Worksheet 2



### 3/13 - Factoring by Grouping

$$\begin{aligned} & \underline{20n^3 + 35n^2} + \underline{16n + 28} \\ & = 5n^2(4n+7) + 4(4n+7) \\ & = (4n+7)(5n^2 + 4) \end{aligned}$$

$$\begin{aligned} & 2n + 4 \\ & = 2(n+2) \end{aligned}$$

$$\begin{aligned} & \underline{5n^3 + 25n^2} + 8n + 40 \\ &= 5n^2(n+5) + 8(n+5) \\ &= (n+5)(5n^2+8) \end{aligned}$$

$$\begin{aligned} & 2v^3 + 3v^2 - 6v - 9 \\ &= v^2(2v+3) - 3(2v+3) \\ &= (2v+3)(v^2-3) \end{aligned}$$

$$\begin{aligned} & \underline{24n^3 - 28n^2} - 18n + 21 \\ &= 4n^2(6n-7) - 3(6n-7) \\ &= (6n-7)(4n^2-3) \end{aligned}$$

$$\begin{aligned} & 28v^3 - 32v^2 - 70v + 80 \\ &= 2(14v^3 - 16v^2 - 35v + 40) \\ &= 2[2v^2(7v-8) - 5(7v-8)] \\ &= 2(7v-8)(2v^2-5) \\ &\rightarrow = 4v^2(7v-8) - 10(7v-8) \\ &= (7v-8)(4v^2-10) \\ &= 2(7v-8)(2v^2-5) \end{aligned}$$

$$\begin{aligned} & 25x^3 - 30x^2 + 50x - 60 \\ &= 5(5x^3 - 6x^2 + 10x - 12) \\ &= 5 \left[ \underbrace{5x^3 - 6x^2}_{x^2(5x-6)} + 2(5x-6) \right] \\ &= 5(5x-6)(x^2+2) \end{aligned}$$

$$f(x) = \underline{x^6 + 2x^4} - \underline{16x^2 - 32}$$

$$= x^4(x^2+2) - 16(x^2+2)$$

$$= (x^2+2)(x^4-16)$$

$$= (x^2+2)(x^2-4)(x^2+4)$$

$$= (x^2+2)(x-2)(x+2)(x^2+4)$$



$$\begin{aligned} f(x) &= \underline{x^6 + 3x^4} - \underline{4x^2 - 12} \\ &= x^4(x^2 + 3) - 4(x^2 + 3) \\ &= (x^2 + 3)(\underline{x^4 - 4}) \\ &= (x^2 + 3)(\underline{x^2 - 2})(x^2 + 2) \end{aligned}$$

# Homework

Factoring WS 4

Due

**Wednesday**

at the end of class