

More Decomposition

9. a) $21x^2 + 17x - 30$

$$= \frac{21x^2 - 18x}{3x} + \frac{35x - 30}{5}$$

$$= 3x(7x - 6) + 5(7x - 6)$$

$$= (7x - 6)(3x + 5)$$

$\otimes -630$
 $\oplus 17$

1, 630
2, 315
3, 210
5, 126
6, 105
7, 90
9, 70
10, 63
14, 45
15, 42

-18, 35

9c) $15x^2 - 28x - 32$

$$= \frac{15x^2 - 40x}{5x} + \frac{12x - 32}{4}$$

$$= 5x(3x - 8) + 4(3x - 8)$$

$$= (3x - 8)(5x + 4)$$

$\otimes -480$
 $\oplus -28$

1, 480
2, 240
3, 160
4, 120
5, 96
6, 80
8, 60
10, 48

12, -40

10 a) $18x^2y + 51xy - 135y$

$$= 3y(6x^2 + 17x - 45)$$

$$= 3y\left(\frac{6x^2 + 27x}{3x} - \frac{10x - 45}{-5}\right)$$

$\otimes -270$
 $\oplus 17$

+27, -10

$$= 3y(3x(2x + 9) - 5(2x + 9)) = 3y(2x + 9)(3x - 5)$$

$$e) -30x + 62x^2 + 48x^3$$

$$= -2x(15 - 31x - 24x^2)$$

$$\otimes -360$$

$$\oplus -31$$

$$= -2x\left(\frac{15-40x}{5} + \frac{9x-24x^2}{3x}\right)$$

$$= -2x\left(5(3-8x) + 3x(3-8x)\right)$$

$$= -2x(3-8x)(5+3x)$$

You 9e 10c

1,	360
2,	180
3,	120
4,	90
5,	72
6,	60
8,	45
9,	-40

8.8) Products of Polynomials.

$$1. \quad 3(x^2 + 3x - 5)$$

$$= 3x^2 + 9x - 15$$

$$2. \quad 2(3a^2 - 5a + 7)$$

$$= 6a^2 - 10a + 14$$

$$7. \quad x(x^2 + 11x + 28)$$

$$= x^3 + 11x^2 + 28x$$

$$12. \quad (x+2)(x^2 - 3x + 1)$$

$$= x^3 - 3x^2 + x + 2x^2 - 6x + 2$$

$$= x^3 - x^2 - 5x + 2$$

$$(x+2)(x+3)$$

$$15. (x-4)(x^2-8x-7)$$

$$= x^3 - \underline{8x^2} - \underline{7x} - \underline{4x^2} + \underline{32x} + 28$$

$$= x^3 - 12x^2 + 25x + 28$$

$$26. (3a^2-5a-6)(a+3) \Rightarrow (a+3)(3a^2-5a+3)$$

$$= 3a^3 + \underline{9a^2} - \underline{5a^2} - \underline{15a} - \underline{6a} - 18$$

$$= 3a^3 + 4a^2 - 21a - 18$$

$$\text{Extra: } (2x^2+3x-4)(x^2-2x+5)$$

$$= 2x^4 - \underline{4x^3} + \underline{10x^2} + \underline{3x^3} - \underline{6x^2} + \underline{15x} - \underline{4x^2} + \underline{8x} - 20$$

$$= 2x^4 - x^3 + 23x - 20$$

You do pg 29/ # 30, 32, 34

Homework: Decomp: 9baf, 10baf
pg 29/ : All

Quiz: Thursday
Test: Wednesday