

Last day's Work: **READ pp.91-95**

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pp. 95-97 #1, (4-6)ac, 11 [15, 16] llc

p. 96 5. Expand and simplify.

a) $4x(x+5)(x-5)$

b) $-2a(a+4)^2$

c) $(x+2)(x-5)(x-2)$

d) $(2x+1)(3x-5)(4-x)$

e) $(9a-5)^3$

p. 96 f) $(a-b+c-d)(a+b-c-d)$

11. Expand and simplify.

a) $(x^2 + 2x - 1)^2$

c) $(x^3 + x^2 + x + 1)(x^3 - x^2 - x - 1)$

b) $(2 - a)^3$

d) $2(x+1)^2 - 3(2x-1)(3x-5)$

c) $(x^3 + x^2 + x + 1)(x^3 - x^2 - x - 1)$

$$= x^6 - x^5 - x^4 - x^3 + x^5 - x^4 - x^3 - x^2 + x^4 - x^3 - x^2 - x + x^3 - x^2 - x - 1$$

$$= x^6 - x^4 - 2x^3 - 3x^2 - 2x - 1$$

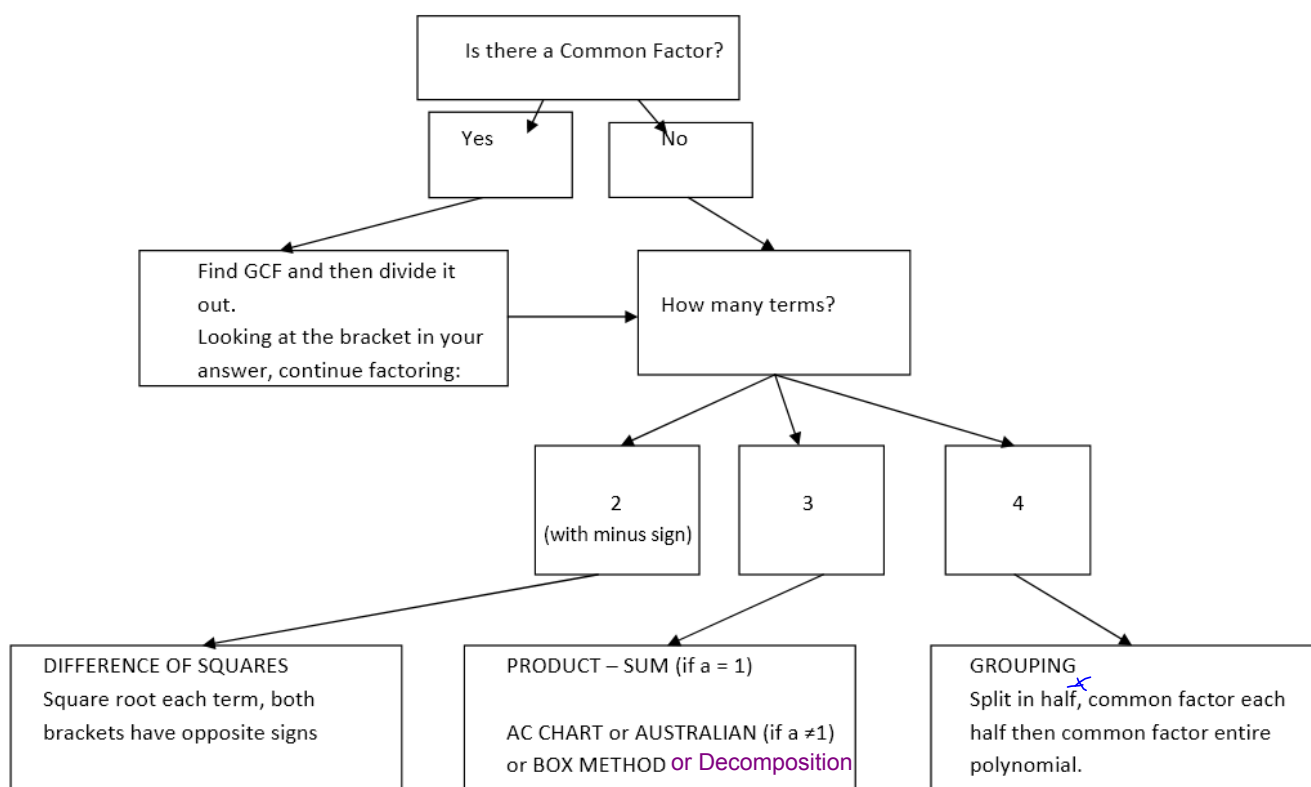
Today's Learning Goal(s):

By the end of the class, I will be able to:

a) factor polynomials with up to 4 terms.

Date: Sept 5/19
(Every lesson)

Factoring Mind-Map



*it may be a and 3 split
↳ not always 2 + 2.

2.3 Factoring Polynomials

Date: Sept. 5/19
(Every lesson)**Review:** Factor the following COMPLETELY (over the integers).**READ p.99 Ex. 3 as a reference!**

1) $3a^2 + 15a - 9$
 $= 3(a^2 + 5a - 3)$

2) $x^2 + 3x - 28$
 $= (x-4)(x+7)$

3) $6x^2 + x - 1$
 $= (2x+1)(3x-1)$

4) $30x^2 - 9x - 3$
 $= 3(10x^2 - 3x - 1)$
 $= 3(10x^2 + 2x - 5x - 1)$
 $= 3(2x(5x+1) - 1(5x+1))$
 $= 3(5x+1)(2x-1)$

5) $4x^2 - 9$
 $= (2x-3)(2x+3)$

6) $2x^3 + 6x^2 - 9x - 27$
 $= 2x^2(x+3) - 9(x+3)$
 $= (x+3)(2x^2 - 9)$

2+) $x^{16} + 3x^8 - 28$

$= (x^8 + 7)(x^8 - 4)$
 $= (x^8 + 7)(x^4 + 2)(x^4 - 2)$

5+) $4x^{10} - 9$

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

Ex.1 Factor completely.

$$\begin{aligned}
 \text{a) } & 4 - m^2 + 10m - 25 \\
 &= 4 - 1(m^2 - 10m + 25) \\
 &= 4 - (m - 5)^2 \\
 &\quad \text{let } w = m - 5 \\
 &= 4 - w^2 \\
 &= (2 - w)(2 + w) \\
 &= (2 - (m - 5))(2 + (m - 5)) \\
 &= (2 - m + 5)(2 + m - 5) \\
 &= (7 - m)(m - 3)
 \end{aligned}$$

$$\begin{aligned}
 \text{b) } & 5a + 10b - a^2 + 4b^2 \\
 &= 5(a + 2b) - (a^2 - 4b^2) \\
 &= 5(a + 2b) - (a - 2b)(a + 2b) \\
 &= (a + 2b)(5 - (a - 2b)) \\
 &= (a + 2b)(5 - a + 2b)
 \end{aligned}$$

Today's Homework Practice includes:

Sign and **RETURN** the cover sheet with email address PRINTED.

READ pp.101-102

pp. 102-104 #1 – 10 [14, 15]

p. 82 #4 (if incomplete from Day 1)