


Unit 7: Factoring

GCF	DIFFERENCE OF TWO PERFECT SQUARES	BASIC TRINOMIAL A/M Method	BOX METHOD
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Polynomials that cannot be factored are called Prime !

<p style="color: purple;">gcf</p> $1. \frac{21c - 12}{\cancel{3} \cancel{3}}$ $3(7c - 4)$	<p style="color: purple;">gcf</p> $2. \frac{x^2y + 8x}{\cancel{x} \cancel{x}}$ $x(xy + 8)$	<p style="color: purple;">gcf</p> $3. \frac{75a^2b^3c - 30ab^2}{\cancel{15ab^2} \cancel{15ab^2}}$ $15ab^2(5abc - 2)$
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<p style="color: blue;">DOTS</p> $4. \sqrt[4]{4m^2 - 81n^2}$ $(2m + 9n)(2m - 9n)$	<p style="color: purple;">gcf DOTS</p> $5. \frac{12x^2 - 12}{\cancel{12} \cancel{12}}$ $12(x^2 - 1)$ $12(x+1)(x-1)$	<p style="color: purple;">gcf DOTS</p> $6. \frac{27b - 75b^3}{\cancel{3b} \cancel{3b}}$ $3b(9 - 25b^2)$ <div style="text-align: center; margin-top: 10px;">  </div> $3b(3 + 5b)(3 - 5b)$
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$$7. p^2 - 13p + 30$$

A      M

$$(p - 3)(p - 10)$$

$$8. n^3 - 4n^2 - 60n$$

gcf  
A/M

$$\frac{n}{n} \frac{-4n^2}{n} - \frac{60n}{n}$$

$$n(n^2 - 4) - 60$$

$$n(n + 6)(n - 10)$$

$$9. 5w^2 - 15w - 20$$

gcf

$$\frac{5}{5} \frac{-15w}{5} - \frac{20}{5}$$

$$5(w^2 - 3w - 4)$$

$$5(w + 1)(w - 4)$$

$$10. 3x^2 + 10x + 3$$

Box Method

$$3x + 1$$

x	$3x^2$	$+1x$	A: $10x$
3	$+9x$	$+3$	M: $9x^2$

$$(3x + 1)(x + 3)$$

11.  $12c^2 + 5c - 2$

$12c^2 + 3c$	$4c + 1$
$2 + 8c - 2$	

A:  $+5c$   
M:  $-24c^2$

$$(3c - 2)(4c + 1)$$

12.  $2x^2 - 5x + 4$

$2x^2$	
	$+4$

A:  $-5x$   
M:  $8x^2$

Prime