

REVIEW

Notes

ex: Perform the indicated operation.

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

drop the ()!

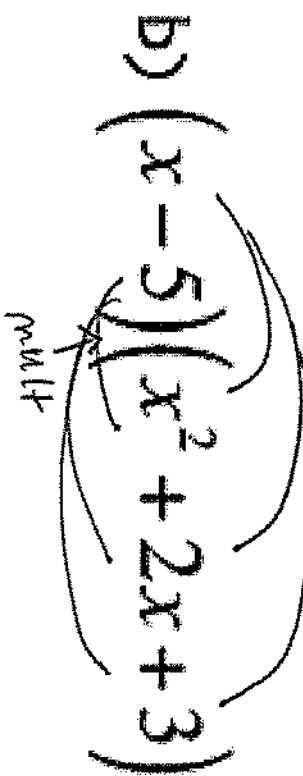
$$\underline{1}x - 5 - x^2 - \underline{2}x - 3$$

$$\boxed{-x^2 - x - 8}$$

REVIEW

ex: Perform the indicated operation.

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



$$x^3 + \underline{2x^2} + \underline{3x} - \underline{5x^2} - \underline{10x} - 15$$

$$\boxed{x^3 - 3x^2 - 7x - 15}$$

REVIEW

ex: Simplify.

$$\frac{15x^{-7}y^9z^0}{(3x)^2(xy^{-1}z^5)^2}$$

$$\begin{aligned} & \frac{15x^{-7}y^9}{\cancel{9x^2} \cdot \cancel{x^2} \cdot y^2 z^{-10}} \\ &= \frac{15x^{-7}y^9}{9 \cdot y^2 z^{-10}} \\ &= \frac{\cancel{15}^5 y^{\cancel{9}^{-2}} z^{10}}{9x^7 y^2} \\ &= \left[\frac{5y^7 z^{10}}{3x^7} \right] \end{aligned}$$

REVIEW

ex: $6x^2 - 4x^{\textcircled{5}} + 1$

a) Write in standard form.

$$\boxed{-4x^{\textcircled{5}} + 6x^2 + 1}$$

b) Identify the degree, leading coefficient and number of terms.

$\boxed{5}$

$\boxed{-4}$

$\boxed{3}$

c) Classify the polynomial by degree and number of terms.

$\boxed{\text{Quintic trinomial}}$

REVIEW

ex: Factor completely.

no gcf

$$a) 64x^3 - 27 = \boxed{(4x - 3) \left(\frac{16x^2 + 12x + 9}{0 \text{ AP}} \right)}$$

$$a = 4x \quad a^2 = 4x \cdot 4x = 16x^2$$

$$b = 3 \quad ab = 4x \cdot 3 = 12x$$

$$b^2 = 9$$

$$b) x^4 - 2x^2 - 8$$

double

$$\begin{array}{r} -8 \\ \frac{x^2}{+2} \quad \frac{x^2}{-4} \end{array}$$

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

Dos

$$\boxed{(x^2 + 2)(x + 2)(x - 2)}$$

ex: Find the indicated value using synthetic substitution.

$$m(x) = 5x^4 + 2x - 8, \quad m(-2) = ?$$

add missing terms

$$x = -2$$

use synthetic division

$$\underline{\underline{5x^4 + 0x^3 + 0x^2 + 2x - 8}}$$

$\overset{\text{mult}}{\underbrace{-2}} \downarrow$	5	0	0	+2	-8	
	↓	-10	+20	-40	+76	
	5	-10	20	-38		68 ← R

$$\boxed{m(-2) = 68}$$