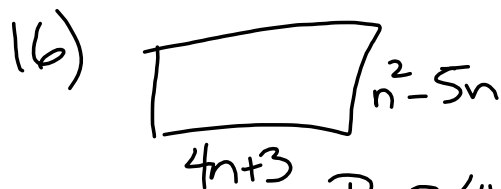


Bellwork: Simply the expression

$$\begin{array}{l}
 1x^2(2x^2 - 3x + 1) - x \\
 2x^4 - 3x^3 + x^2 - x
 \end{array}$$



$$\begin{aligned}
 P &= 2(4n+3) + 2(n^2-5n) \\
 P &= 8n+6+2n^2-10n = \boxed{2n^2-2n+6}
 \end{aligned}$$

$$\begin{aligned}
 A &= (4n+3)(n^2-5n) \\
 A &= \boxed{4n^3-17n^2-15n}
 \end{aligned}$$

n^2	$4n+3$
$4n^3$	$3n^2$
$-20n^2$	$-15n$

18) $10x - (2x^2 - x)(5x + 6) + 2(x^3 - 8)$ PEMDAS

$2x^2 - x$	
$5x$	$10x^3 - 5x^2$
$+6$	$12x^2 - 6x$

$$\begin{aligned}
 &10x - (10x^3 + 7x^2 - 6x) + 2(x^3 - 8) \\
 &10x - 10x^3 - 7x^2 + 6x + 2x^3 - 16 \\
 &-8x^3 - 7x^2 + 16x - 16
 \end{aligned}$$

Hr

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Today's Objective:

I can simplify expressions using properties of exponents.

PROPERTIES OF EXPONENTS			
Zero Exponent	$a^0 = 1$	Power Rule	$(a^n)^m = a^{nm}$
Product Rule	$a^m \cdot a^n = a^{m+n}$	Power of a Product	$(ab)^n = a^n \cdot b^n$
Quotient Rule	$\frac{a^m}{a^n} = a^{m-n}$	Power of a Quotient	$\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}$
Negative Exponent	$a^{-n} = \frac{1}{a^n}$		

$$(X^2)^3 = X^2 \cdot X^2 \cdot X^2 = X^6$$

$$\frac{X^4}{X^6} = X^{4-6} = X^{-2}$$

$$= \frac{1}{X^3}$$

Example 1: $(x^6)(y^3)(x^4)$

$$x^{10} y^3$$

$$\text{Example 2: } (4x^3)(5x^6) = 20x^9$$

$$\text{Example 3: } (3a^5b^7c)^4 = 3^4(a^5)^4(b^7)^4c^4$$

$$81a^{20}b^{28}c^4$$

Example 4: $\frac{6x^4}{18x^{10}}$ $\frac{1}{3}x^{-6} = \frac{1}{3x^6}$

Example 5: $\left(\frac{2n^7}{3n^2}\right)^3 = \frac{2^3 n^{21}}{3^3 n^6} = \frac{8n^{21}}{27n^6}$

$\frac{8n^{15}}{27}$

Example 6: $\frac{(x^2 y)^{-2}}{2xy^{-3}}$

$$\frac{y^3}{2x(x^2 y)^2}$$

$$\frac{y^3}{2x^1 \cdot x^4 y^2} = \frac{y}{2x^5}$$