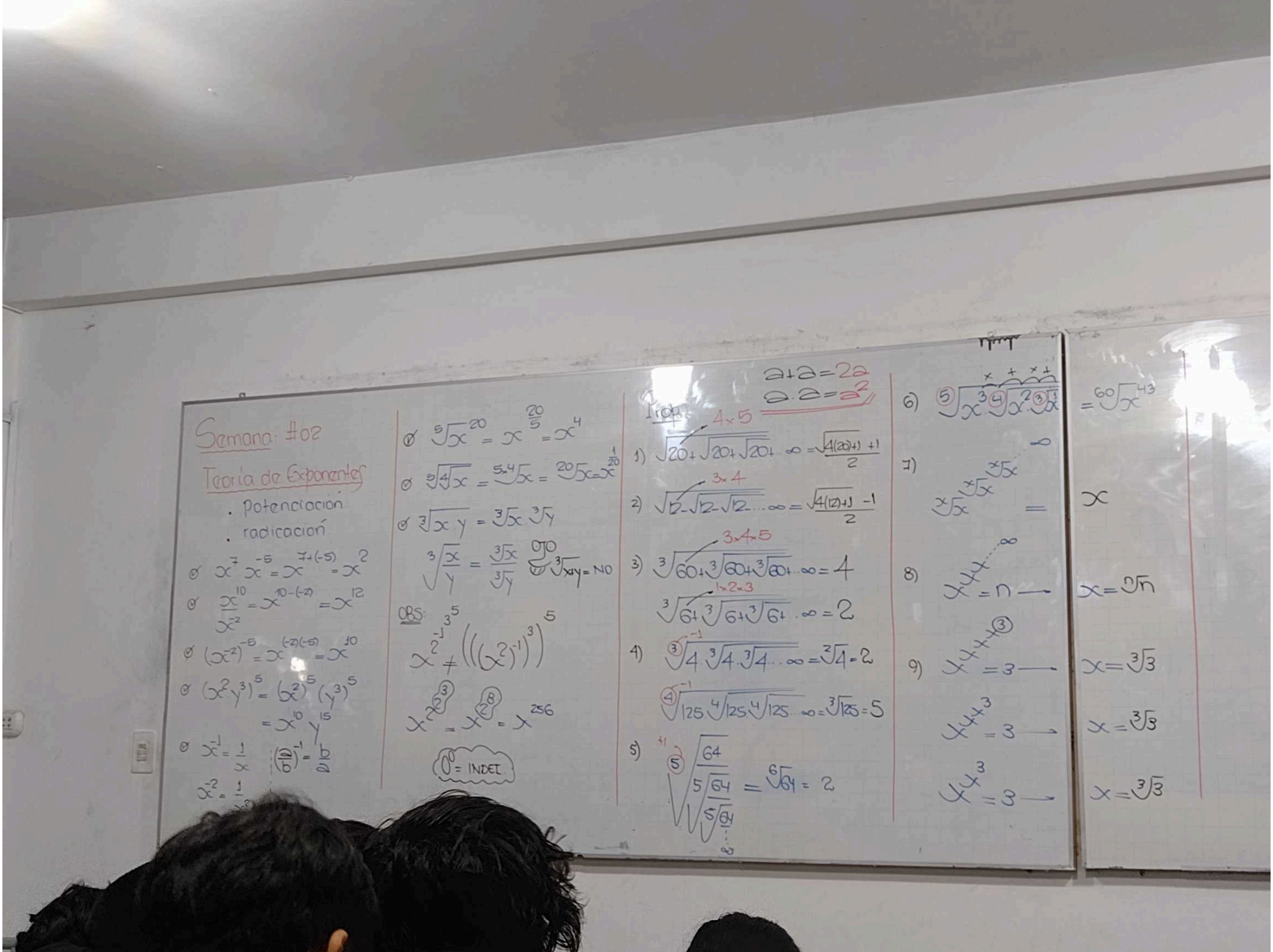
Semana: #02
Teoría de Exponentes
. potenciación
. radicación
$x^7 x^{-5} = x^{7+(-5)} = x^2$
$\frac{x^{10}}{x^{-2}} = x^{10-(-2)} = x^{12}$
$(x^{-2})^{-5} = x^{(-2)(-5)} = x^{10}$
$(x^2y^3)^5 = (x^2)^5 (y^3)^5 = x^{10} y^{15}$
$x^{-1} = \frac{1}{x}$
$\left(\frac{a}{b}\right)^{-1} = \frac{b}{a}$
$x^{-2} = \frac{1}{x^2}$
$\sqrt[5]{x^{20}} = x^{\frac{20}{5}} = x^4$
$\sqrt[5]{\sqrt[4]{x}} = \sqrt[5\cdot4]{x} = \sqrt[20]{x} = x^{\frac{1}{20}}$
$\sqrt[3]{xy} = \sqrt[3]{x}\sqrt[3]{y}$
$\sqrt[3]{\frac{x}{y}} = \frac{\sqrt[3]{x}}{\sqrt[3]{y}}$ OJO $\sqrt[3]{x+y} = NO$
OBS
$x^{2^{3^5}} \neq (((x^2)^{-1})^3)^5$
$x^{2^3} = x^8 = x^{256}$
$\frac{0}{0}$ = INDET
Trop
$a+a = 2a$
$a \cdot a = a^2$
1) $\sqrt{20+\sqrt{20+\sqrt{20+\ldots}}} \infty = \frac{\sqrt{4(20)+1}+1}{2}$ (4×5)
2) $\sqrt{12-\sqrt{12-\sqrt{12-\ldots}}} \infty = \frac{\sqrt{4(12)+1}-1}{2}$ (3×4)
3) $\sqrt[3]{60+\sqrt[3]{60+\sqrt[3]{60+\ldots}}} \infty = 4$ (3×4×5)
$\sqrt[3]{6+\sqrt[3]{6+\sqrt[3]{6+\ldots}}} \infty = 2$ (1×2×3)
4) $\sqrt[-1]{4\sqrt[3]{4\sqrt[3]{4\ldots}}} \infty = \sqrt[3]{4} = 2$
$\sqrt[-1]{125\sqrt[4]{125\sqrt[4]{125\ldots}}} \infty = \sqrt[3]{125} = 5$
5) $\sqrt[+1]{\frac{64}{\sqrt[5]{64}}}$ $\sqrt[5]{\sqrt[5]{64}}$ $\ldots \infty = \sqrt[6]{64} = 2$
6) $\sqrt[5]{x^3\sqrt[4]{x^2\sqrt[3]{x}}} = \sqrt[60]{x^{43}}$
7) $\sqrt[x]{x^{\sqrt[x]{x^{\sqrt[x]{x}}}}} \infty = x$
8) $x^{x^{x^{\cdot^{\cdot^{\cdot}}}}} \infty = n \longrightarrow x = \sqrt[n]{n}$
9) $x^{x+x+3} = 3 \longrightarrow x = \sqrt[3]{3}$
$x^{x+3} = 3 \longrightarrow x = \sqrt[3]{3}$
$x^x = 3 \longrightarrow x = \sqrt[3]{3}$