TALLER DE CONCEPTOS ALGEBRAICOS Y TRIGONOMETRICOS

NOMBRE

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FICHA

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FECHA

6 DE MAYO DEL 2024

Actividad de conceptos trigonometricos y Algebraicas

① $(x+y)^2 = x^2 + 2xy + y^2$
$x^2 + 2xy + y^2 = x^2 + 2xy + y^2$

② $(x-y)^2 = x^2 - 2xy + y^2$
$x^2 - 2xy + y^2 = x^2 - 2xy + y^2$

③ $(x+a)\cdot(x-a) = x^2 - a^2$
$x^2 + a^2 \cdot = x^2 - a^2$

④ $(x-b)^2 + 4xb = (x+b)^2$
$x^2 - 2xa + a^2 + 4xa = x^2 + 2xa + a^2$
$x^2 + 2xa + a^2 = x^2 + 2xa + a^2$

⑤ $(x+a)^2 - 4xa = (x-a)^2$
$x^2 + 2xa - a^2 - 4xa = a^2 - 2xa\ xa^2$
$x^2 - 2xa - a^2 = x^2 - 2xa - a^2$

⑥ $(A^2 + b^2 + 2ab)^2 + 2(A\cdot b)(c\cdot d)$

⑦ $(x+b)(x+z) = x^2 + x(b+z) + bz$

⑧ $(x+y)^2$
① $\sqrt[3]{x^2} + \sqrt[3]{y^2}$
② $\sqrt[3]{x^3}^2 - \sqrt[3]{x^3}\cdot\sqrt[3]{y^2} = (\sqrt[3]{y^3})^2$

⑨ $(x+y)^3$
① $\sqrt[3]{x^3} - \sqrt[3]{y^2}$
② $\sqrt[3]{x^3}^3 + \sqrt[3]{x^2}\cdot\sqrt[3]{y^2} + (\sqrt[3]{y^3})^2$

⑩ $x^3 + b^2 = x^2 + 3(x^3)^2 b^3 + 3x^4 (b^3)^2 + b^3$

⑪ $x^2 - y^3 = x^3 - 3(x^3)^2 y^3 + 3x^3 (y^3 (y^3)^2 - y^3$

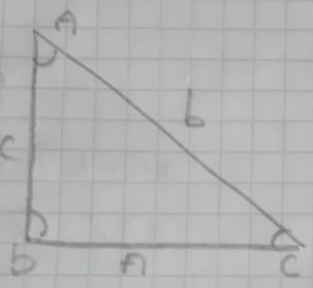
(12) $x^3+b^3+z^3+c^3+3(x^2b+x^2z+x^2c+b^2x+b^2z+b^2c+z^2x+z^2b+z^2c+c^2x+c^2b+c^2z)+6(x+b+z)(b+z+c)(c+x+b)(z+c+x)$

(13) $(x^2-5)(x^2-z)=(x)^2+(x^2-b).(x^2-z)+(x^2-b)+(x^2-z)+(x^2$
(x^2-z)

(14) $(x+b)^3\cdot(x-b)^3=(x^2-y^2)^3$
$(x+b)(x+b)(x+b)(x-b)(x-b)(x-b)$

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

(15)



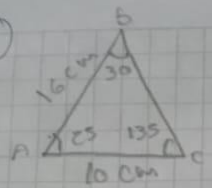
$c\sqrt{b^2-A}$

(16) $(2+3)^2=(4+(2+3).1)^2$
$(5)^2=(4(5).1)^2$
$25=(9.1)^2$
$25=(9)^2$
$25=81$

(17) $(b+2).(b+3).(b-2)^2.(b-2)^2=(b+3)(b+3)$
$(b-2)^2(b-2)^2$

(18) $(2(m-n))^3-5=2(m^2-n^3)-755$
$(2(5))^3-5=2(1000-125)-755$
$(2.5)-5=2(875)-755$
$(10)^3-5=1750-755$
$1000-=955$ $\quad 995=995$

(19)



$\frac{A}{\text{Sen}A} = \frac{B}{\text{sen}b} = \frac{C}{\text{Sen}\,c}$

$C = 180 (25 - 30)$
$C = 130 (25)$
$C = 180 \leftarrow 25$
$C = 155$

$\frac{16}{\text{Sen}\,25} = 37.8$

$\frac{14}{\text{Sen}\,30} = 18.2$

$\frac{10}{\text{Sen}\,155} = 260.2$

(20) Teorema del Coseno

$a^2 = b^2 + c^2 - 2.b.c.\,\text{Cos}(a)$

$b^2 = a^2 + c^2 - 2.b.c.\,\text{Cos}(b)$

$c^2 = a^2 + c^2 - c.a.b.\,\text{Cos}(c)$

Trigonometria

(1) $(\text{Sen}A - \text{Sen}b) = \text{Sen}A.(\text{Cos}b) - \text{Cos}a.\text{Sen}(b)$

(2) $(\text{Cos}a - \text{Cos}b) = \text{Cos}A + \text{Cos}b)(\text{Sen}a + \text{Sen}b)$

(3) $\text{Tan}(A-b) = \frac{\text{Tan}A - \text{tan}b}{1 + (\text{tan}A)(\text{tan}b)}$

(4) $\text{Cot}(A-b = \frac{\text{COT}A + \text{COT}b + 1}{\text{COT}A - \text{Cot}b}$

(5) $\text{Sen}.(2a) = 2\text{Sen}A \cdot \text{Sen}A$

(6) $\cos(2a) = \cos^2(a) - \operatorname{sen}^2(a)$

(7) $\tan(2x) = \frac{2\tan x}{1-\tan^2 x}$

$\tan(2 \cdot 15) = \frac{2\tan 15}{1-\tan^2 15}$

$\tan 30 = \frac{0.53}{0.92}$ $\qquad 0.57 = 0.57$

(8) $\cot(2a) = \frac{\cot^2 A - 1}{2\cot A}$

(9) $\tan A = \frac{2\tan\frac{A}{2}}{1-\tan^2\frac{A}{2}}$

(10) $\cos A = \frac{1-\tan^2\frac{A}{2}}{2\tan\frac{A}{2}}$

(11) $\operatorname{sen}\frac{A}{2} = \pm\sqrt{\frac{1-\cos(A)}{2}}$

(12) $\cos\frac{A}{2} = \pm\sqrt{\frac{1+\cos(A)}{2}}$

(13) $\tan\frac{A}{2} = \pm\sqrt{\frac{1+\cos A}{1-\cos A}}$

(14) $\operatorname{sen}A + \operatorname{sen}b = 2\left(\frac{A+b}{2}\right) \cdot \left(\frac{\cos A + \cos b}{2}\right)$

(15) $\operatorname{sen}A - \operatorname{sen}b = 2\left(\frac{\operatorname{sen}A - \operatorname{sen}b}{2}\right) \cdot \left(\frac{\cos A + \cos b}{2}\right)$

(16) $\cos A + \cos b = 2\left(\frac{\cos A + \cos b}{2}\right) \cdot \left(\frac{\cos A + \cos b}{2}\right)$

(17) $\operatorname{sen}A \cdot \cos B = \frac{\operatorname{sen}A + \operatorname{sen}B}{\operatorname{sen}A + \operatorname{sen}B}$

(18) $\text{Sen}A + \text{sen}B = (\text{Sen}A \cdot \text{Cos}B) + (\text{Cos}A \cdot \text{Sen}B)$

(19) $\text{Cos}A + \text{cos}B = (\text{Cos}A \cdot \text{Cos}B) - (\text{Sen}A + \text{sen}B)$

(20) $\text{Tan}A + \text{Tan}B = \frac{\text{Tan}A \cdot \text{Tan}B}{1 - \text{Tan}A \cdot \text{Tan}B}$

(21) $\text{Cot}A + \text{Cot}B = \frac{\text{Cot}A \cdot \text{Cot}B - 1}{\text{Cot}A \cdot \text{Cot}B}$

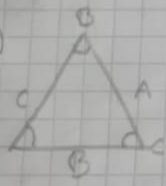
(22) $(\text{Cos}A \cdot \text{Cos}B) = 2 - \frac{(\text{Cos}(A - B) + \text{Cos}(A + B))}{2}$

(23) $\text{Cos}A - \text{Cos}B = 2 - \frac{(\text{Sen}A + \text{sen}B)}{2} \cdot \frac{\text{Sen}A + \text{Sen}B}{2}$

(24) $\text{Tan}^2 A = \frac{1 - \text{Cos}(2A)}{1 + \text{Cos}(2A)}$

(25) $\text{Sen}A \cdot \text{sen}B = \frac{(\text{Cos}A - \text{Cos}B) - (\text{Cos}A + \text{Cos}B)}{2}$

(26)



$$\frac{B + C}{B - C} = \frac{\text{Tan}\left(\frac{B + C}{2}\right)}{\text{tan}\left(\frac{B - C}{2}\right)}$$

(27) $(\text{Tan}A + \text{Tan}B)(\text{Cot}A - \text{Sen}^{-1}) = \frac{2.1 - \text{Cos}A}{\text{Sen}(2A)}$

(28) $\text{Tan}\left(\frac{A}{B}\right) = \frac{(\text{Cos} - \text{Cos}(2A))}{\text{Sen} + \text{Sen}(2.A)}$

(29) $(\text{Sen}A) + (\text{Sen}39) + (\text{Sen}5A) + (\text{Sen}79) = \text{Sen}^4(4A)$.
$\text{Cos}A \cdot \text{Cos}(2A)(-0.98 + (0.89) + (-0.71) + (0.46)$
$= (0.11) \cdot (0.15)(-0.95)$

(30) $AT = \sqrt{SP(Sp - a)(Sp - b)(Sp - c)^2}$

$Sp = \frac{a + b + c}{2}$