

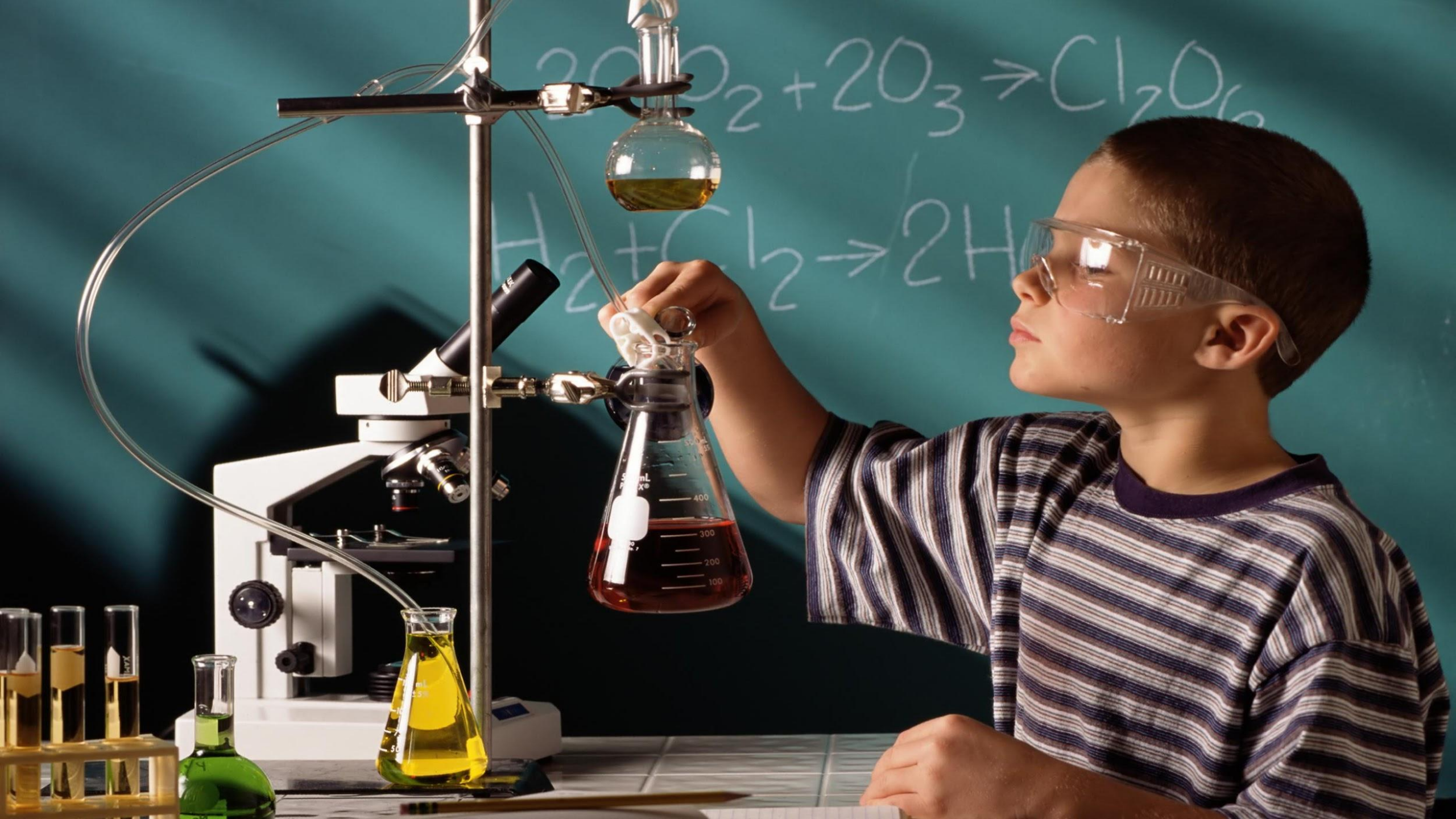
# ПРАЗДНИК НАУКИ 2021



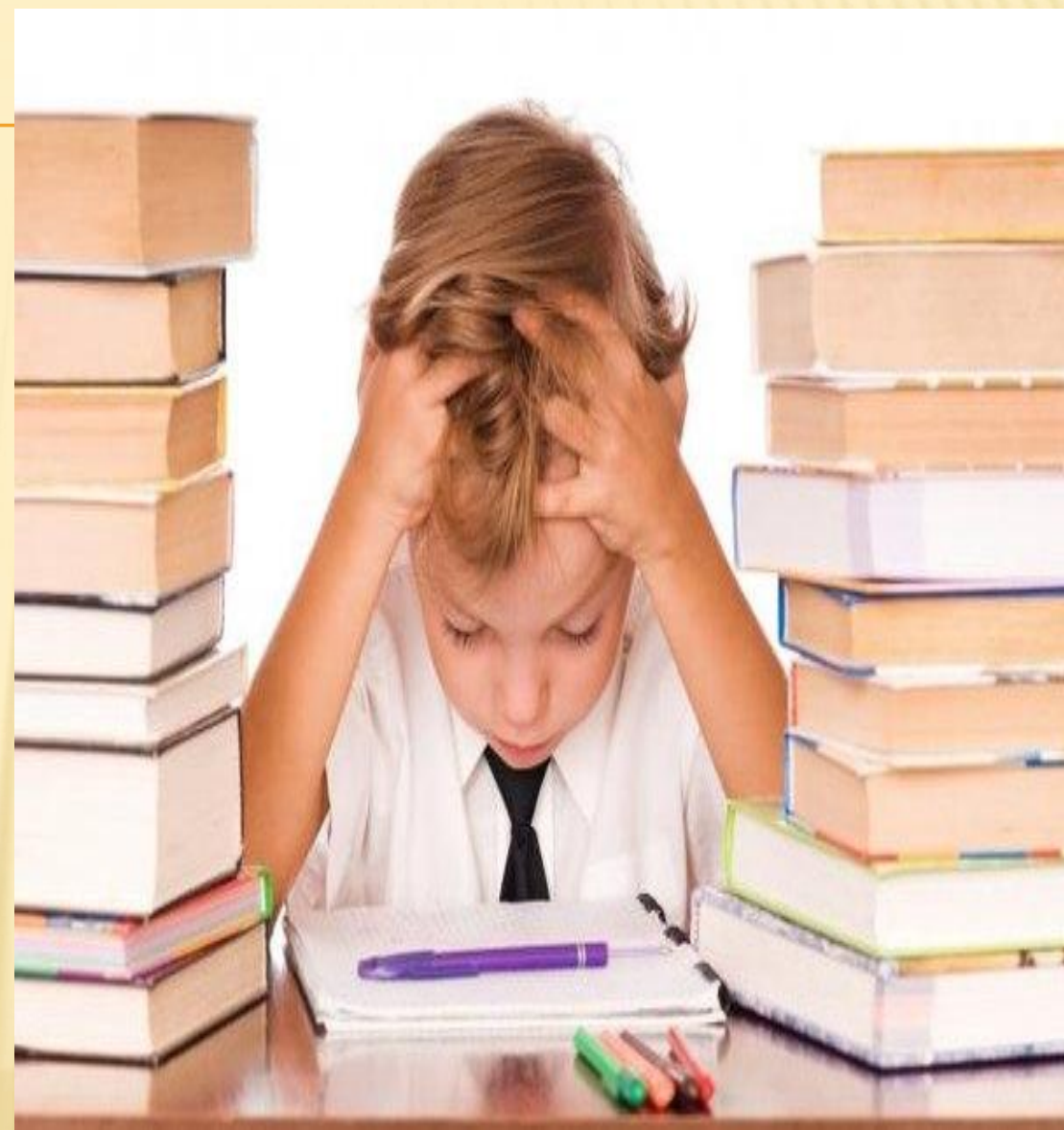




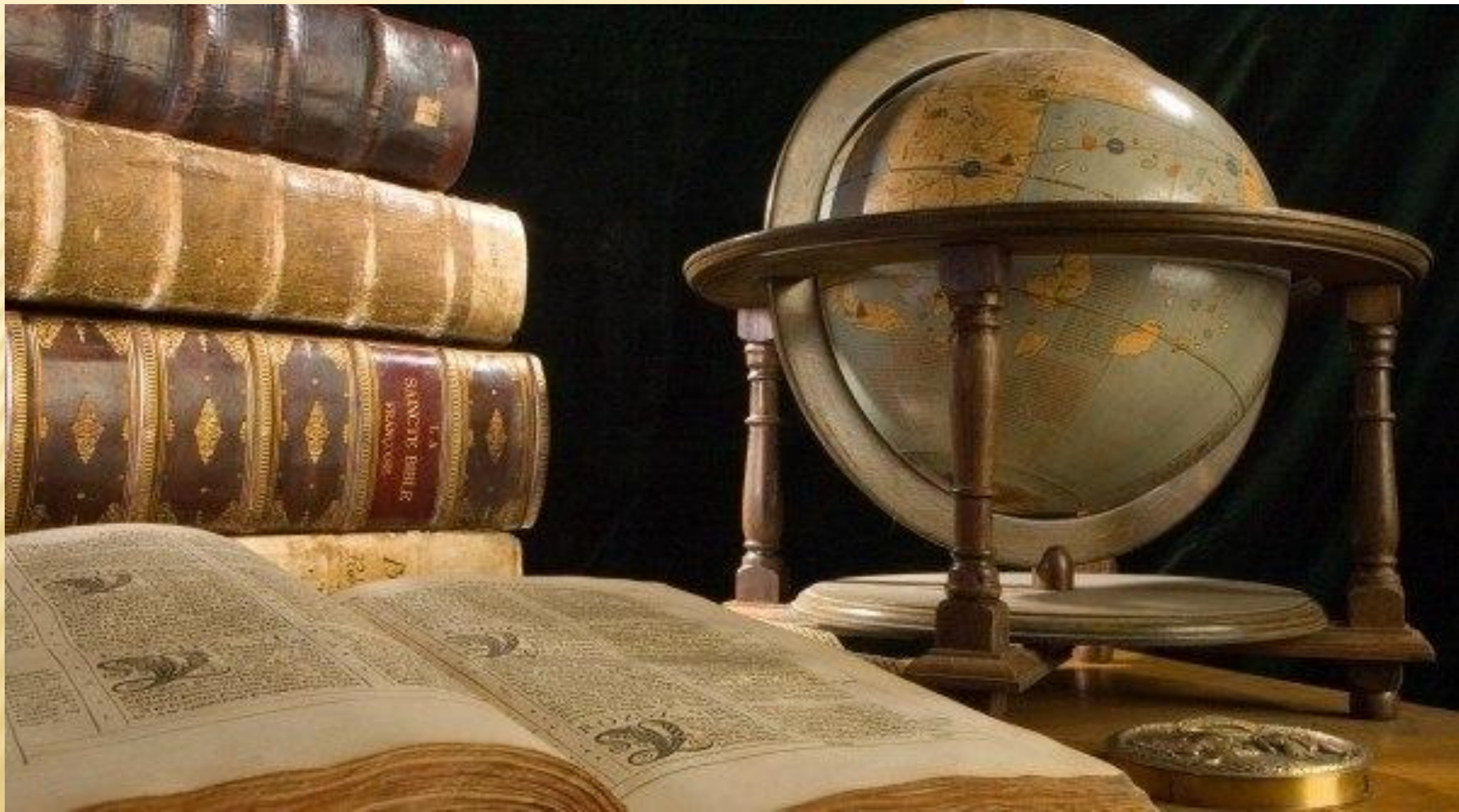














$r = \sin \theta$  for  $0 \leq \theta \leq \pi/2$ : (12, 15, 16)  $0 \leq \theta \leq \pi \rightarrow (3)$

$P_2 \cdot (V_1 - V_2) = \underline{\underline{P_2 (V_2 - V_1)}}$

$P dV = - \int P_2 (nR) \dots$   
 $r = |\sin \theta|$  is

Because as  $\theta$  is between  $\pi R$  and  $2\pi$ , it retraces its steps.

$R(T_1 - T_2) = -nR \left[ \frac{P_2 V_1}{nR} - \frac{P_2 V_2}{nR} \right] = 2(V_2 - V_1)$



| $\theta$ | $r$           |
|----------|---------------|
| $7\pi/6$ | $-1/2$        |
| $4\pi/3$ | $-\sqrt{3}/2$ |

| $\theta$ | $r$          |
|----------|--------------|
| $\pi/6$  | $1/2$        |
| $\pi/3$  | $\sqrt{3}/2$ |



$\frac{3}{2} nR (T_3 - T_2) = \frac{3}{2} nR \left[ \frac{P_2 V_1}{nR} - \frac{P_2 V_2}{nR} \right]$

When  $B=0, y=-3$   
 $3 = A + B \cos 2x$   
 $3 = A + B \cos \pi$   
 $3 = A - B$

$r = \cos \theta$  for  $0 \leq \theta \leq \pi/2$



$\Delta U = n C_V (T_3 - T_2) = \frac{5}{2} nR (T_3 - T_2)$

begin when  $x=0, y=5$   
 $5 = A + B \cos 0$   
 $5 = A + B$   
 $5 = A - B$



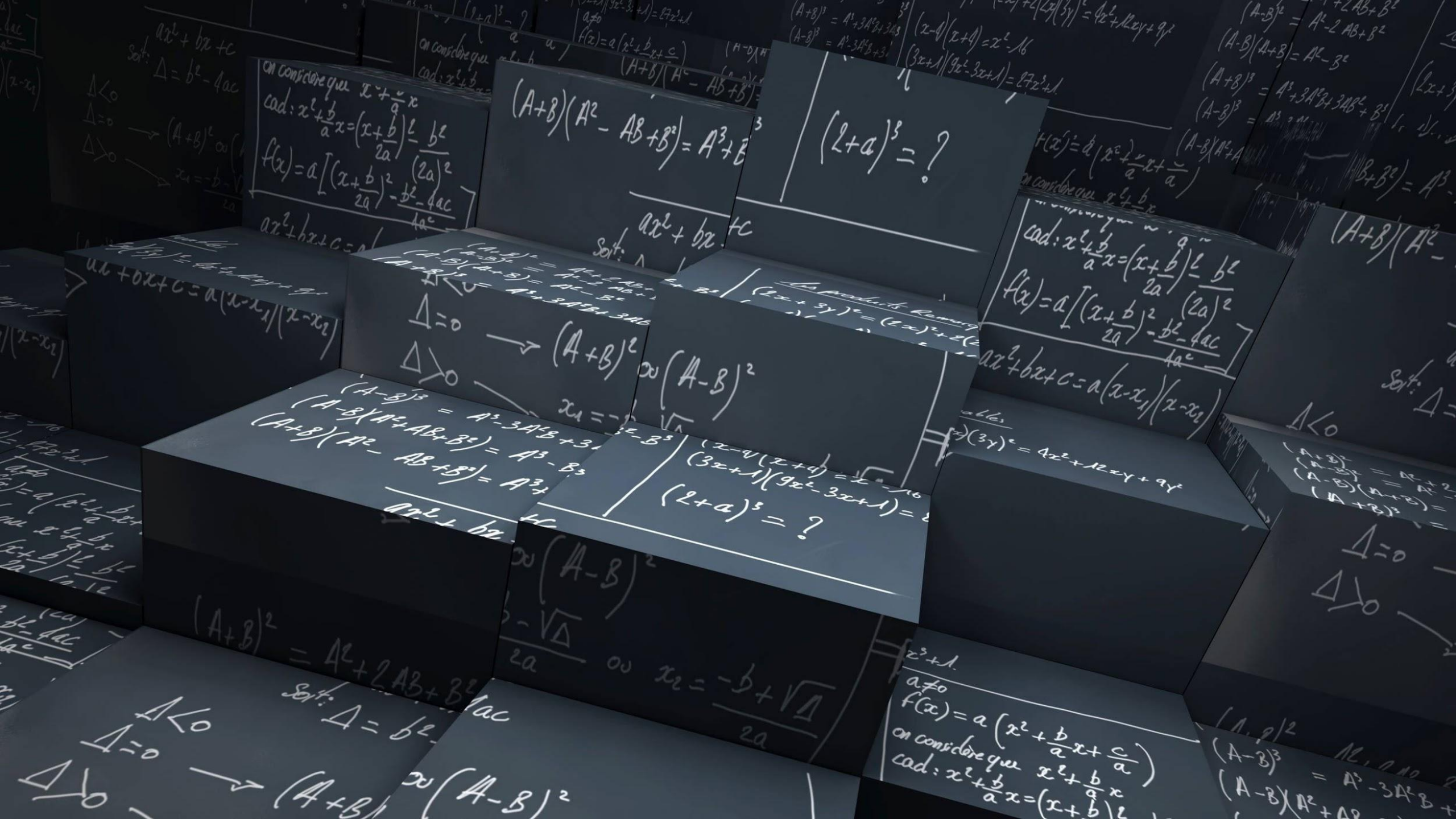












$$ax^2 + bx + c$$

Sol:  $\Delta = b^2 - 4ac$

$\Delta < 0$   
 $\Delta = 0$   
 $\Delta > 0$

$(A+B)^2$  ou  $(A-B)^2$

$x_1 = -b - \sqrt{\Delta}$   
 $x_2 = -b + \sqrt{\Delta}$

on considère que  $x^2 + \frac{b}{a}x = (x + \frac{b}{2a})^2 - \frac{b^2}{4a^2}$

cad:  $x^2 + \frac{b}{a}x = (x + \frac{b}{2a})^2 - \frac{b^2}{4a^2}$

$f(x) = a \left[ (x + \frac{b}{2a})^2 - \frac{b^2 - 4ac}{4a^2} \right]$

$ax^2 + bx + c = a(x - x_1)(x - x_2)$

$$(A+B)(A^2 - AB + B^2) = A^3 + B^3$$

$$(2+a)^3 = ?$$

on considère que  $x^2 + \frac{b}{a}x = (x + \frac{b}{2a})^2 - \frac{b^2}{4a^2}$

cad:  $x^2 + \frac{b}{a}x = (x + \frac{b}{2a})^2 - \frac{b^2}{4a^2}$

$f(x) = a \left[ (x + \frac{b}{2a})^2 - \frac{b^2 - 4ac}{4a^2} \right]$

$ax^2 + bx + c = a(x - x_1)(x - x_2)$

$\Delta = 0 \rightarrow (A+B)^2$  ou  $(A-B)^2$

$\Delta > 0 \rightarrow x_1 = -b - \sqrt{\Delta}$   
 $x_2 = -b + \sqrt{\Delta}$

$$(A-B)^3 = A^3 - 3A^2B + 3AB^2 - B^3$$
$$(A-B)(A^2 + AB + B^2) = A^3 - B^3$$
$$(A+B)(A^2 - AB + B^2) = A^3 + B^3$$

$$(2+a)^3 = ?$$

$$(A+B)^2 = A^2 + 2AB + B^2$$

Sol:  $\Delta = b^2 - 4ac$

$\Delta < 0$   
 $\Delta = 0$   
 $\Delta > 0$

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on considère que  $x^2 + \frac{b}{a}x = (x + \frac{b}{2a})^2 - \frac{b^2}{4a^2}$

$$(A-B)^3 = A^3 - 3A^2B + 3AB^2 - B^3$$
$$(A-B)(A^2 + AB + B^2) = A^3 - B^3$$























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