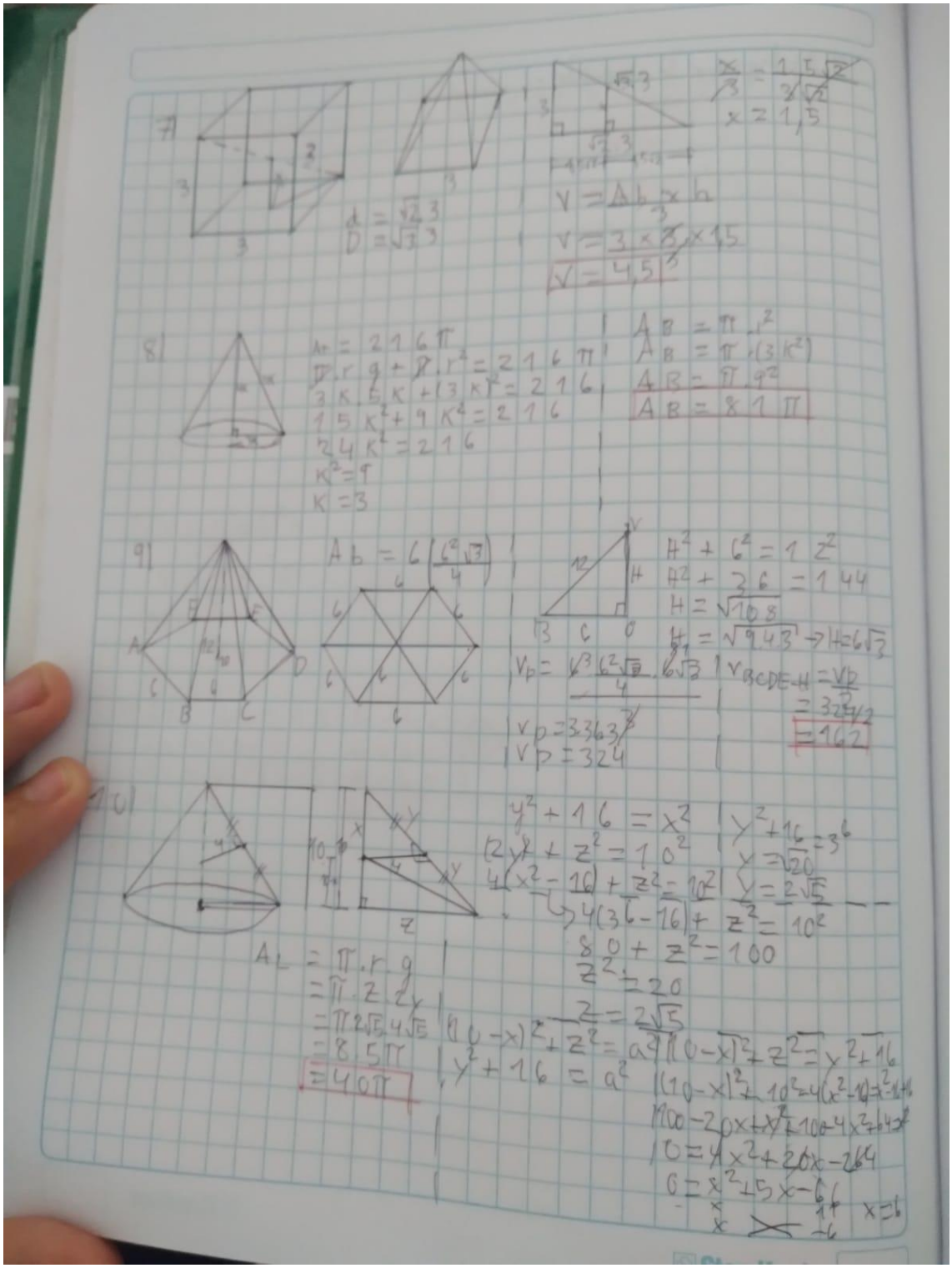
Repaso de Conos y Pirámides



11) 

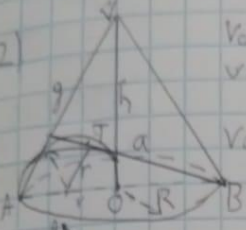
$A_T = \frac{(2x+4x)}{2} \cdot h$ | $A_{T_2} = \frac{3x^2\sqrt{3}}{4}$

$27 = \frac{6x \cdot (x\sqrt{3})}{2}$ | $A_{T_2} = x^2\sqrt{3}$

$27 = \frac{6x^2\sqrt{3}}{4}$ | $48 = x^2\sqrt{3}$

$\rightarrow 27\,m^2$

$\rightarrow 48\,m^2$ $36 = x^2\sqrt{3}$

12) 

$V_o = \frac{1}{3}\pi r^2 h$ | $(3r)^2 = r^2 + a^2$ | $g^2 = h^2 + 4r^2$

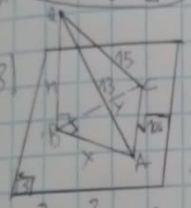
$V_c = \frac{1}{3}\cdot\pi\cdot\frac{a^2}{8}\cdot h$ | $9r^2 = r^2 + a^2$ | $\frac{g^2 - h^2}{4} = r^2$

$8r^2 = a^2$

$V_c = \frac{1}{3}\pi\frac{a^2}{8}\cdot\sqrt{g^2 - \frac{a^2}{2}}$ | $2\sqrt{2}r = a$ | $\sqrt{\frac{g^2+h^2}{4}} = h$

$\sqrt{g^2 - 4a^2} = h$

$\sqrt{(g^2 - 8r^2)} = h$

13) 

$x^2 + y^2 = 106$

$h^2 + x^2 = 13^2 \rightarrow x^2 = 169 - 144$ | $13^2 - h^2 + 15^2 - h^2 = 106$

$x^2 = 25$ | $169 + 225 - 106 = 2h^2$

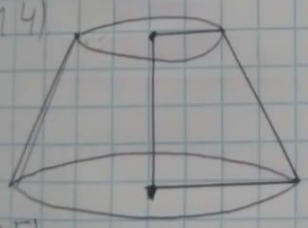
$x = 5$ | $394 - 106 = 2h^2$

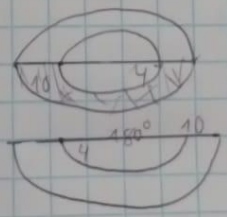
$h^2 + y^2 = 15^2 \rightarrow y^2 = 255 - 144$ | $288 = 2h^2$

$y^2 = 81$ | $144 = h^2$

$y = 9$ | $12 = h$

$V = \frac{1}{3}\left[\frac{5\cdot 9}{2}\cdot 12\right] \rightarrow V = 270/3 \rightarrow \boxed{V = 90}$

14) 

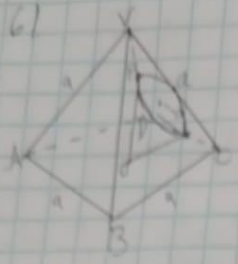


$h = 10 - 4$

$\boxed{h = 6}$

15)

16)



$\left(\frac{a}{2}\right)^2 + r^2 = (2r)^2$

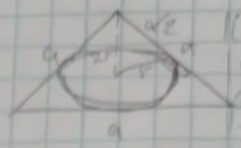
$\frac{a^2}{4} + r^2 = 4r^2$

$\frac{a^2}{4} = 3r^2$

$a^2 = 12r^2$

$\frac{a^2}{12} = r^2$

$\frac{a\sqrt{12}}{12} = r$



$\left(\frac{a}{2}\right)^2 = r^2 + D^2$

$a^2/4 = r^2 + D^2$

$12a^2/4 = r^2 + D^2$

$3a^2 = r^2 + D^2$

$\sqrt{3}r = D$

$V = \frac{\pi r^2 \cdot D}{3}$

$V = \frac{\pi r^2 \sqrt{3} r}{3}$

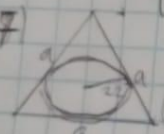
$V = \frac{\sqrt{3}}{3}\pi r^3$

$V = \frac{\sqrt{3}}{3}\pi \cdot \frac{a^3}{12\sqrt{12}}$

$V = \sqrt{2}\pi \cdot \frac{a^3}{24\sqrt{3}}$

18)

17)

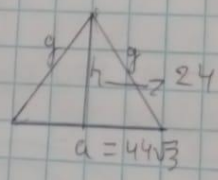


$(6\sqrt{6})^2 + (a/2)^2 = a^2$

$6\sqrt{6} = \frac{3a^2}{4}$

$(6\sqrt{6})^2 = 3a^2/4$

$44\sqrt{3} = a$



$Al = \frac{3 \cdot a \cdot b}{2}$

$Al = \frac{3 \cdot 44\sqrt{3} \cdot 24}{2}$

$Al = 1584\sqrt{3}$

19)