Calcule cu nr reale reprezentate prin litere (+, −, ·)

① Calculați: $a+a=$ $x-x=$ $a+2a+3a=$

$4a+2a=$ $2x-x=$ $2a+5a+6a=$

$3a+3a=$ $3x-x=$ $3a-5a+a=$

$5a+4a=$ $4x-x.$ $2a+4a+5a=$

$x-2x+3x=$ $-5a+2x-4a+3x=$ $a-b-a=$

$4x+2x-5x=$ $6a-5b+9a+3b=$ $2a-3a+b=$

$3y+2y+8y=$ $a+b+2a-b=$ $5x-6y-x=$

$-y+2y-y=$ $3a-5a+5-9b=$ $-3x+2x-5y=$

② Calculați:

$\frac{1}{2}a-\frac{2}{2}a+\frac{4}{2}a=$ $\frac{2}{3}a+\frac{6}{2}a=$ $\frac{4}{6}x+\frac{1}{3}x=$

$\frac{3}{5}b-\frac{4}{5}b+\frac{2}{5}b=$ $\frac{1}{3}a-\frac{2}{4}a=$ $-\frac{1}{5}y+\frac{6}{7}y=$

$\frac{1}{9}x-\frac{2}{9}x-\frac{4}{9}x=$ $\frac{5}{7}b-\frac{1}{9}b=$ $-\frac{3}{4}a-\frac{1}{5}a=$

$\frac{3}{7}y-\frac{5}{7}y-\frac{8}{7}y=$ $\frac{5}{3}x+\frac{1}{2}x=$ $+\frac{3}{7}b-\frac{1}{8}b=$

③ Calculați:

$x\cdot x=$ $2\cdot x\cdot x=$ $-3\cdot x\cdot(-2)=$ $(-x)\cdot(-y)=$

$x\cdot x\cdot x=$ $3\cdot x\cdot y=$ $-9\cdot x\cdot(-4)\cdot x=$ $x\cdot(-x)=$

$x\cdot y\cdot x=$ $13\cdot 12\cdot x=$ $\frac{1}{3}y\cdot y^2\cdot\frac{2}{7}=$ $-y\cdot(-2y)=$

$x\cdot x\cdot y\cdot y=$ $2x\cdot x=$ $-\frac{1}{3}\cdot x\cdot x^2=$ $y^2\cdot(-3y)=$

$x\cdot x\cdot y=$ $4y\cdot y=$ $\frac{1}{2}a\cdot\left(-\frac{1}{3}b\right)=$

$y\cdot x\cdot y=$ $5x\cdot x^2=$ $\frac{9}{7}x\cdot y\cdot y^2=$ $\frac{4}{6}a^2\cdot b^2\cdot\frac{2}{3}=$

$x\cdot x^2=$ $\frac{1}{2}x\cdot x\cdot\frac{1}{2}=$ $\frac{1}{3}\cdot(-x)\cdot(-x)=$ $\frac{1}{5}x^2\cdot\frac{2}{3}y^2=$

$x^2\cdot x\cdot x=$

Prisma patrulateră regulată dreaptă (p.p.r.d)

(1). Aria unui pătrat cu latura de 2cm este ..... cm^2.

(2). Diagonala unui pătrat cu latura de 3cm este .... cm.

(3). Un pătrat cu aria de $16cm^2$ are latura de .... cm.

(4). Într-un pătrat cu diagonala de $8\sqrt{2}$, latura este .. cm.

(5). Perimetrul unui pătrat cu latura de 10cm este .... cm.

(6). Un pătrat cu perimetru de 80cm are latura de .... cm.

(7). Aria laterală a unei p.p.r.d. cu $A_b = 25cm^2$, $h = 4cm$ este de ..... cm^2.

(8). Aria totală a unei p.p.r.d cu $P_b = 16cm$ și $h = 12cm$ este de ..... cm^2.

(9). Volumul unei p.p.r.d. cu $A_b = 15cm^2$ și $h = 10cm$ este de ..... cm^3.

(10). Dacă un p.p.r.d. are $P_b = 20cm$ atunci A_b este ..... cm^2.

(11). Dacă $A_l = 100cm^2$ ~~pentru~~ o p.p.r.d, $P_b = 20cm$ atunci muchia p.p.r.d este de ..... cm.

(12). Dacă $A_l = 196cm^2$ pentru o p.p.r.d, $h = 8cm$ atunci $P_b = ...$

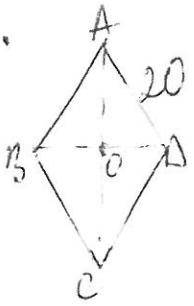
(13). Într-un p.p.r.d, $A_l = 200cm^2$, $A_b = 100cm^2$ atunci $A_t = ...$

(14). Aria laterală a unei p.p.r.d. cu $A_b = 64cm^2$, $h = 8cm$ este de .... cm^2.

(15). Într-un p.p.r.d cu $V = 125cm^3$, $h = 5cm$, $A_b = ... cm^2$

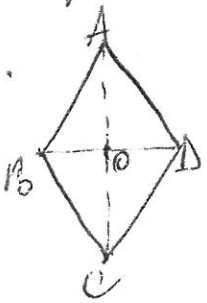
(16) Diagonala unei p.p.r.d cu muchia bazei de 6cm și $h_p = 8cm$ este de .... cm.

Relații metrice – romb, trapez isoscel.

① 

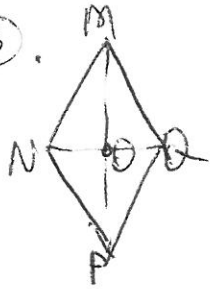
$ABCD$ – romb.
$AD = 20$
$BD = 10$

$AC = ?$
$P_{\Diamond} = ?$
$A_{\Diamond} = ?$

② 

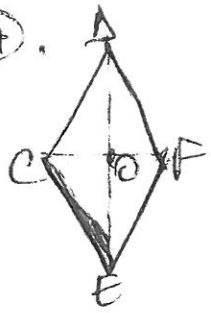
$ABCD$ – romb
$P_{\Diamond} = 36$ cm.
$AC = 12$ cm.

$BD = ?$ $AD = ?$
$A_{\Diamond} = ?$

③ 

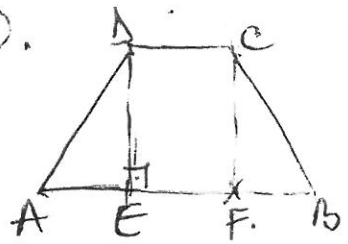
$MNPQ$ – romb.
$MO = 12$cm.
$OQ = 8$cm.

$MQ = ?$
$P_{\Diamond} = ?$
$A_{\Diamond} = ?$

④ 

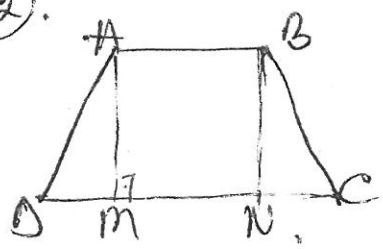
$CEFD$ – romb
$DE = 12$
$CF = 10$

$A_{\Diamond} = ?$
$DF = ?$
$P_{\Diamond} = ?$

① 

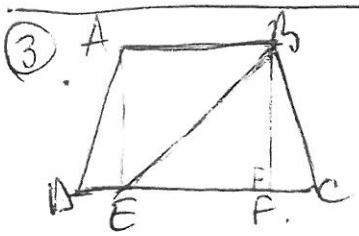
$ABCD$ – trapez isoscel.
$AD = 4$
$AB = 10$
$CD = 6$.

$DE = ?$
$P_{\triangle} = ?$
$A_{\triangle} = ?$

② 

$ABCD$ trapez isoscel.
$AM = 12$
$AD = 13$.
$AB = 4$

$DM = ?$
$DC = ?$
$P_{\triangle} = ?$
$A_{\triangle} = ?$
$l_m = ?$

③ 

$ABCD$ – trapez isoscel
$AB = 6$
$DC = 10$.
$BE = 8$.

$BF = ?$
$A_{\triangle BEC}$

Relații metrice — Δ isoscel, echilateral.

(1). Perimetrul unui Δ echilateral cu $\ell = 10$ cm este .... cm.

(2). Un Δ echilateral cu $P = 60$ cm are $\ell =$ .... cm.

(3). Un Δ echilateral cu $\ell = 6$ cm are $h =$ .... cm.

(4). Un Δ echilateral cu $\ell = 4$ cm are $h =$ .... cm.

(5). Un Δ echilateral cu $\ell = 2\sqrt{2}$ cm are $h =$ .... cm.

(6). Un Δ echilateral cu $\ell = 4\sqrt{3}$ cm are $h =$ .... cm.

(7). Un Δ echilateral cu $\ell = 5$ cm, $h = 3$ cm, are aria = ... cm^2

(8). Un Δ echilateral cu $\ell = 4\sqrt{2}$ cm, $h = 12$ cm are aria = ... cm^2

(9). Un Δ echilateral cu $\ell = 7$ cm, atunci h este:

a) 7 b) $7\sqrt{3}$ c) $\frac{7\sqrt{3}}{2}$ d) $\frac{\sqrt{3}}{2}$.

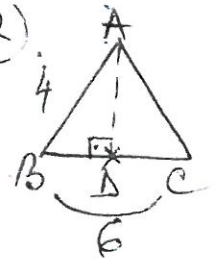
(10). Un Δ echilateral cu $\ell = 1$ cm, atunci h este:

a) $\sqrt{3}$ b) $2\sqrt{3}$ c) $\frac{\sqrt{3}}{2}$ d) $\frac{2\sqrt{3}}{4}$

(11). Un Δ echilateral cu $\ell = \sqrt{3}$ cm, are aria de:

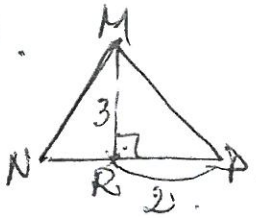
a) $\frac{3}{4}$ b) $\frac{\sqrt{3}}{4}$ c) $\frac{3\sqrt{3}}{4}$ d) $3\sqrt{3}$

(12).



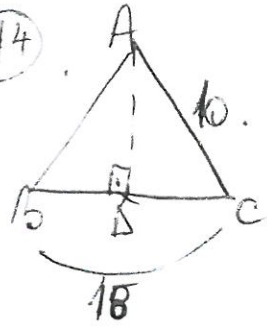
Δ ABC - isoscel.
AB = 4
BC = 6.
AC = ?
P_Δ = ?
AD = ?

(13).



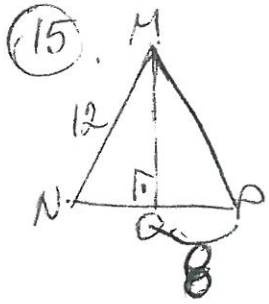
Δ MNP - isoscel
MR ⊥ NP
MR = 3.
RP = 2.
MP = ?
MN = ?
P_Δ = ?

(14).



Δ ABC - isoscel
AC = 10
AD ⊥ BC.
BC = 16.
AD = ?
AB = ?
P_Δ = ? A_Δ = ?

(15).



Δ MNP isoscel.
MN = 12
QP = 8.
MQ ⊥ QP
MQ = ? NQ = ?
P_Δ = ?
A_Δ = ?