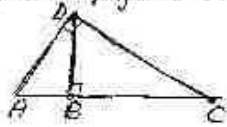


Teorema inaltimii, catetei, Pitagora

1) Fie figura de mai jos.

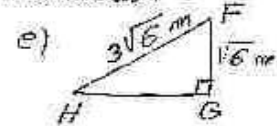
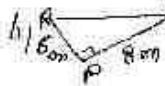
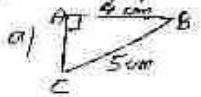


Completati: a) $BD = \sqrt{AB \cdot \dots}$ (teorema inaltimii)
 $BD^2 = \dots \cdot BC$

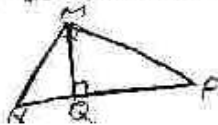
b) $AD = \sqrt{AB \cdot \dots}$ (teorema catetei)
 $BC^2 = \dots \cdot AC$

c) $AD^2 + \dots = AC^2$ (Pitagora)

2) Pentru fiecare din triunghiurile de mai jos, calculati catetele necunoscute:



3) Se considera desenul:



Stiind ca $NQ = 4 \text{ cm}$ si $QP = 9 \text{ cm}$, calculati:

a) QM ; b) MN ; c) PM

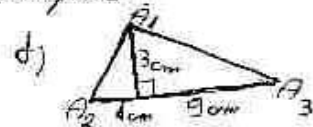
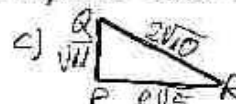
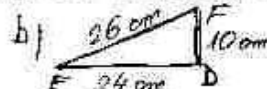
4) Fie un triunghi echilateral. a) Daca latura este 4 cm, calculati inaltimile.
 b) Daca inaltimile este 6 cm, calculati laturile.

5) Un triunghi dreptunghic are catetele de 8 dm si 4 dm. Calculati:
 a) perimetrul triunghiului, b) inaltimile corespunzatoare ipoteuzei

6) Fie un patrat. a) Daca latura este 5 cm, calculati diagonalele.
 b) Daca diagonala este 10 cm, calculati latura.

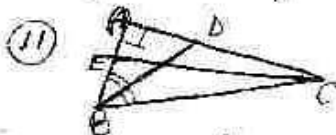
7) Calculati perimetrul si suprafata unui triunghi dreptunghic care are un unghi de 60° si ipoteuză 12 cm.

8) Verificati care din urmatoarele triunghiuri sunt dreptunghice:

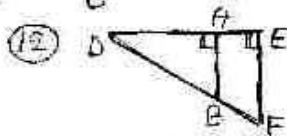


9) Dreptunghiul ABCD are $AC = 15 \text{ cm}$, $AB = 12 \text{ cm}$. Calculati:
 a) aria lui ABCD; b) distanta de la A la CD; c) perimetrul lui ABCD

10) Un trapez dreptunghic are baza mica 18 mm, baza mica 12 mm si inaltimile 8 mm. Calculati: a) perimetrul trapezului; b) diagonalele; c) axia izoperului.



In figura alaturata, $AB = 2 \text{ cm}$, $BC = 25 \text{ cm}$, ED este bisectoarea, iar CE este mediana. Calculati: a) CE; b) ED



Stiind ca $DA = 12 \text{ cm}$, $AE = 6 \text{ cm}$, $EF = 10 \text{ cm}$, calculati:
 a) BD; b) AB

13) Un triunghi care are lungimile laturilor 7 m, 9 m, 13 m este dreptunghic, ascutitunghic sau obtuzunghic?

14) Un romb are diagonalele 4 cm si $4\sqrt{3} \text{ cm}$. Calculati: a) perimetrul rombului; b) cosinusul unghiului.