

9.19.

$c^2 = a^2 + b^2$ c - hipotenuzā, a, b - katēti!

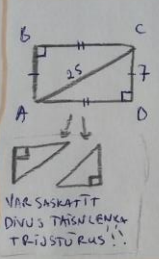
a) $x^2 = 8^2 + 15^2$
 $x^2 = 64 + 225$
 $x^2 = 289$
 $x = \sqrt{289}$
 $x = 17$

b) $x^2 = 8^2 + 6^2$
 $x^2 = 64 + 36$
 $x^2 = 100$
 $x = \sqrt{100}$
 $x = 10$

c) $13^2 = x^2 + 5^2$
 $169 = x^2 + 25$
 $144 = x^2$
 $x = \sqrt{144}$
 $x = 12$

d) $x \cdot 15^2 = x^2 + 9^2$
 $225 = x^2 + 81$
 $169 = x^2$
 $x = \sqrt{169}$
 $x = 13$

e) $x^2 = 0,6^2 + 0,8^2$
 $x^2 = 0,36 + 0,64$
 $x^2 = 1$
 $x = \sqrt{1} = 1$



9.21

a) $AC^2 = AD^2 + CD^2$
 $25^2 = AD^2 + 7^2$
 $625 = AD^2 + 49$
 $576 = AD^2$
 $AD = \sqrt{576}$
 $AD = 24$

b) $P(ABCO) =$
 $= \frac{AB+BC+CO+AO}{2} =$
 $= \frac{7+24+7+24}{2} =$
 $= \frac{(24+7) \cdot 2}{2} = 312 =$
 $= 62 \text{ cm}$

c) $S_{ABCO} = 24 \cdot 7 = 168 \text{ cm}^2$

*9.20

a)
 $c^2 = 9^2 + 12^2$
 $c^2 = 81 + 144$
 $c^2 = 225$
 $c = \sqrt{225} = 15 \text{ cm}$
 $P = 9 + 12 + 15 = 36 \text{ cm}$

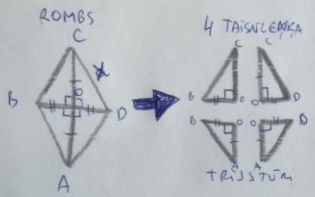
b)
 $c^2 = 10^2 + 24^2$
 $c^2 = 100 + 576$
 $c^2 = 676$
 $c = \sqrt{676}$
 $c = 26 \text{ cm}$
 $P = 10 + 24 + 26 = 60 \text{ cm}$

c)
 $c^2 = 24^2 + 7^2$
 $c^2 = 576 + 49$
 $c^2 = 625$
 $c = \sqrt{625} = 25 \text{ cm}$
 $P = 24 + 7 + 25 = 56 \text{ cm}$

OTROJENA, 21.04

8. KASE

9.22.



$AC = AO + OC$
 $BD = BO + OD$
 $P_{AOC} = 4 \cdot x$

a) $AC = 8 \text{ mm}$, tad $AO = OC = 4 \text{ mm}$
 $BD = 6 \text{ mm}$, tad $BO = OD = 3 \text{ mm}$

$P_{AOC} = 5 \cdot 4 = \underline{20 \text{ mm}}$

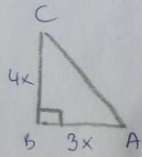
$x^2 = 3^2 + 4^2$
 $x^2 = 9 + 16$
 $x^2 = 25$
 $x = \sqrt{25}$
 $x = 5 \text{ mm}$

b) $AC = 24 \text{ cm}$, $AO = OC = 12 \text{ cm}$
 $BD = 18 \text{ cm}$, $BO = OD = 9 \text{ cm}$

$P_{AOC} = 4 \cdot 15 = \underline{60 \text{ cm}}$

$x^2 = 12^2 + 9^2$
 $x^2 = 144 + 81$
 $x^2 = 225$
 $x = \sqrt{225}$
 $x = 15 \text{ cm}$

9.27.



PITAGORA T.

$AB^2 + BC^2 = AC^2$
 $a^2 + b^2 = c^2$
 atau $c^2 = a^2 + b^2$

#1) $AB : BC = 3 : 4$, tad $AB = 3x$ m $BC = 4x$!

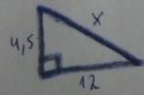
#2) $3x + 4x = 28 \text{ cm}$
 $7x = 28$
 $x = 4 \text{ cm}$

#3) $AB = 3x = 3 \cdot 4 = \underline{12 \text{ cm}}$
 $BC = 4x = 4 \cdot 4 = \underline{16 \text{ cm}}$

#4) $AC^2 = AB^2 + BC^2$
 $AC^2 = 12^2 + 16^2$
 $AC^2 = 144 + 256 = 400$
 $AC = \sqrt{400} = \underline{20 \text{ cm}}$

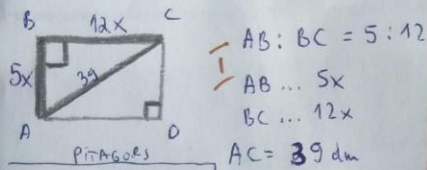
$A : AC = \underline{20 \text{ cm}}$

*g. 24.



$x^2 = (4,5)^2 + 12^2$
 $x^2 = 20,25 + 144$
 $x^2 = 164,25$
 $x = \sqrt{164,25}$
 $x \approx 12,8 \text{ m}$

$EGLE \approx 4,5 + 12,8 \approx \underline{17,3 \text{ m}}$



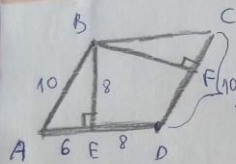
$AC^2 = AB^2 + BC^2$

$AB = 5x = 5 \cdot 3 = 15 \text{ m}$
 $BC = 12 \cdot x = 12 \cdot 3 = 36 \text{ m}$

9.28.

$39^2 = (5x)^2 + (12x)^2$
 $1521 = 25x^2 + 144x^2$
 $1521 = 169x^2 \quad | :169$
 $9 = x^2$
 $x^2 = 9$
 $x = \sqrt{9} = 3 \text{ m}$

9.30.



- 1) $\triangle ABE$ (taisn leņķis) $\Rightarrow AB^2 = AE^2 + BE^2$
- 2) $AE + ED = AD$
- $AD = 6 + 8 = 14 \text{ (g.v.)}$

$10^2 = 6^2 + BE^2$
 $100 = 36 + BE^2$
 $64 = BE^2$
 $BE = \sqrt{64} = 8 \text{ (g.v.)}$

$S_{ABCD} = a \cdot h_a = AD \cdot BE$ 3) $AB = CD$
 $AD = BC$

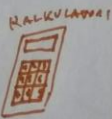
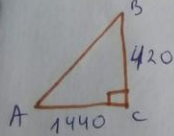
$S_{ABCD} = 14 \cdot 8 = 112 \text{ (l.v.)}$

$S_{ABCD} = BE \cdot AD = BF \cdot CD$

$112 = BF \cdot 10$

$BF = \frac{112}{10} = 11,2 \text{ (g.v.)}$

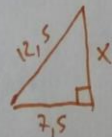
* 9.31.



$AB^2 = AC^2 + BC^2$
 $AB^2 = 1440^2 + 420^2$
 $AB^2 = 2073600 + 176400$
 $AB^2 = 2250000$
 $AB = \sqrt{2250000}$
 $AB = 1500 \text{ m}$

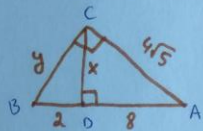
$A: 1500 \text{ m}$

* 9.32.



$(12,5)^2 = (7,5)^2 + x^2$
 $156,25 = 56,25 + x^2$
 $100 = x^2$
 $x = \sqrt{100} = 10 \text{ m}$

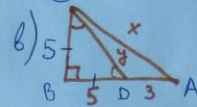
$A: 10 \text{ m}$



! Jāprot varat arī vairāki taisnleņķu trijstūri!

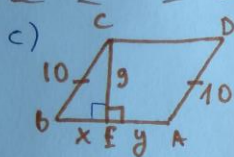
a) $\triangle ADC:$
 $(4\sqrt{5})^2 = x^2 + 8^2$
 $16 \cdot 5 = x^2 + 64$
 $80 - 64 = x^2$
 $x^2 = 16$
 $x = \sqrt{16} = 4$

$\triangle ACB:$
 $AB = 2 + 8 = 10 \text{ m!}$
 $10^2 = y^2 + (4\sqrt{5})^2$
 $100 = y^2 + 80$
 $y^2 = 20$
 $y = \sqrt{20} = \sqrt{4 \cdot 5} = 2\sqrt{5}$



$\triangle CBD:$
 $5^2 + 5^2 = y^2$
 $25 + 25 = y^2$
 $50 = y^2$
 $y = \sqrt{50} = \sqrt{25 \cdot 2}$
 $y = 5\sqrt{2}$

1) $BD = BC = 5$
 2) $AB = 5 + 3 = 8$
 $\triangle ABC:$
 $5^2 + 8^2 = x^2$
 $25 + 64 = x^2$
 $89 = x^2$
 $x = \sqrt{89}$



$\triangle BCE:$
 $10^2 = 9^2 + x^2$
 $100 = 81 + x^2$
 $x^2 = 19$
 $x = \sqrt{19}$

$AB = x + y$
 $10 = \sqrt{19} + y$
 $y = 10 - \sqrt{19}$

ROMBAS: $AB = BC = CD = DA$

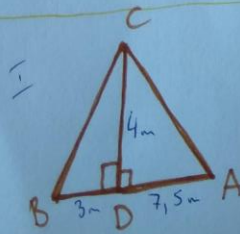
* 9.55 (a; c)

ATCEPIES: JA IZPILĀS PITAGORA TEORĒMA, TAD TRIJSTŪRS IR TAISNLEŅĀKA!

a) ① $x^2 + 2^2 = 3^2$ ② $(\sqrt{2})^2 + (\sqrt{3})^2 = (\sqrt{5})^2$
 $x^2 + 4 = 9$ $2 + 3 = 5$
 $x^2 = 5$ $5 = 5$ ✓
 $x = \sqrt{5}$ $\alpha = 90^\circ$ ✓

c) ① $(6\sqrt{3})^2 + (6)^2 = (26)^2$ ② $x^2 = \left(\frac{6\sqrt{5}}{2}\right)^2 + 6^2$
 $36^2 + 6^2 = 48^2$ $x^2 = \frac{36^2}{4} + 6^2$
 $46^2 = 46^2$ ✓ $x^2 = \frac{76^2}{4}$ $x = \sqrt{\frac{76^2}{4}} = \frac{1}{2} \sqrt{76}$

* 9.56.

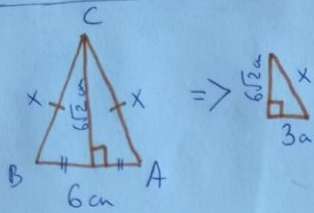


1) $AB = 3 + 7,5 = 10,5 \text{ m}$

2) $BC^2 = BD^2 + CD^2$
 $BC^2 = 3^2 + 4^2$
 $BC^2 = 9 + 16$
 $BC^2 = 25$
 $BC = \sqrt{25} = 5 \text{ m}$

3) $AC^2 = CD^2 + AD^2$
 $AC^2 = 4^2 + 7,5^2$
 $AC^2 = 16 + 56,25$
 $AC^2 = 72,25$
 $AC = \sqrt{72,25}$
 $AC = 8,5 \text{ m}$

$P_{ABC} = 10,5 + 5 + 8,5 = 19 + 5 = 24 \text{ m}$



$$x^2 = (6/2)^2 + 3^2$$

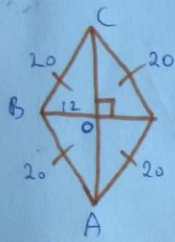
$$x^2 = 36/4 + 9 = 72/4 + 9 = 81$$

$$x = \sqrt{81} = \underline{9 \text{ cm}}$$

A: 9 cm

#VIENĀDŠĀNU TRIJSTŪRS

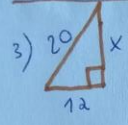
9.59.



#ROMBS

1) $P_{ABCD} = 80 \text{ cm}$, no tā šķērso, ka $AB = BC = CD = AD = 80 : 4 = \underline{20 \text{ cm}}$

2) $BD = 24 \text{ cm}$, tātad $BO = OD = 24 : 2 = \underline{12 \text{ cm}}$



$$20^2 = x^2 + 12^2$$

$$400 = x^2 + 144$$

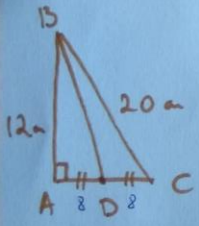
$$x^2 = 256$$

$$x = \sqrt{256} = \underline{16 \text{ cm}}$$

$BO = OD = 16 \text{ cm}$, tātad $BD = \underline{32 \text{ cm}}$

4) $S_{ABCD} = \frac{d_1 \cdot d_2}{2} = \frac{24 \cdot 32}{2} = \underline{384 \text{ cm}^2}$

* 9.63



1) $BC^2 = AB^2 + AC^2$
 $20^2 = 12^2 + AC^2$
 $400 = 144 + AC^2$
 $AC^2 = 256$
 $AC = \sqrt{256} = \underline{16 \text{ cm}}$

2) $AC = AD + DC$
 $AD = DC$
 $AD = \underline{8 \text{ cm}}$

3) $BD^2 = 12^2 + 8^2$
 $BD^2 = 144 + 64$
 $BD^2 = 208$
 $BD = \sqrt{208} = \sqrt{16 \cdot 13} = \underline{4\sqrt{13} \text{ cm}}$

A: $BD = 4\sqrt{13}$