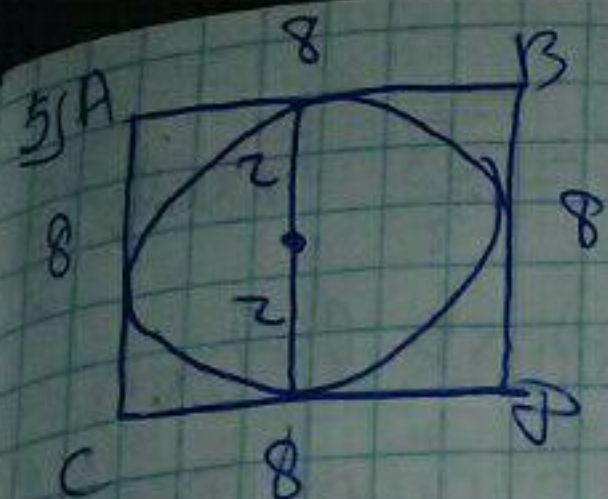
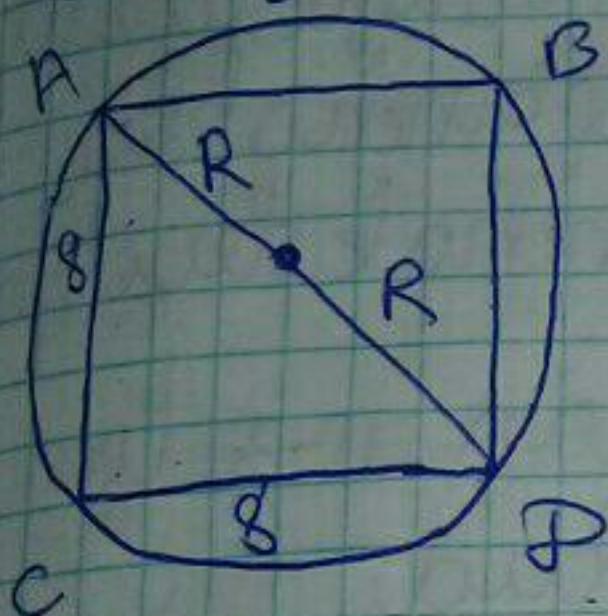


2dm



$$r = \frac{a}{2} = \frac{8}{2} = 4$$



$$8^2 + 8^2 = 4R^2$$

$$R^2 = 64 : 2 = 32$$

$$R = 4\sqrt{2}$$

Jawab: 4, $4\sqrt{2}$

21-Bilet

1) 30ta - 25ta = 5ta $\rightarrow$ otolmagan

25 - 100Y.

5 - XY.

$\rightarrow X = 20\%$ Jawab: 20%

$$25 \quad 2) 1,7 : (1\frac{2}{3}X - 3,75) = \frac{17}{12} \cdot \frac{8}{25}$$

$$1\frac{2}{3}X - 3,75 = \frac{17}{10} \cdot \frac{3 \cdot 25}{17 \cdot 2}$$

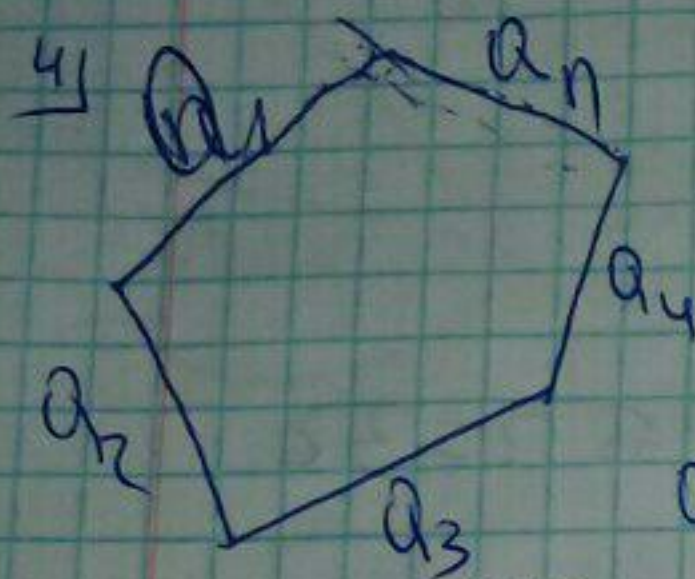
$$1\frac{2}{3}X = 3,75 + 3,75$$

$$\frac{5}{3}X = \frac{75}{10}$$

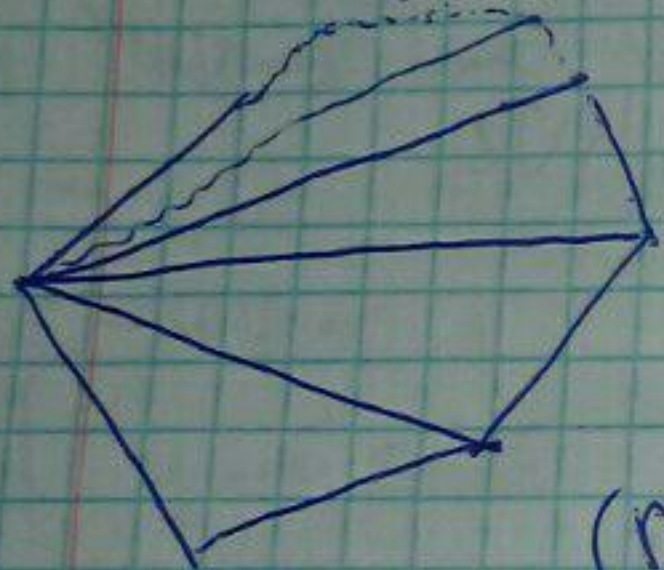
$$X = \frac{75 \cdot 3}{10 \cdot 5} = \frac{45}{10} = 4,5 \text{ Jawab: } 4,5$$

$$3) \sin 75^\circ \cdot \cos 15^\circ - \cos 75^\circ \cdot \sin 15^\circ =$$

$$= \sin(\alpha - \beta) = \sin(75^\circ - 15^\circ) = \sin 60^\circ = \frac{\sqrt{3}}{2} \quad \text{Jawab: } \frac{\sqrt{3}}{2}$$



garis-garis n -bunchak bolxin tomonlari bir-biriga parallel bo'lmagan ko'pbunchakka garis-garis ko'pbunchak deyiladi.



har bir uchidan $n-3$ ta diagonalsa bo'ladi. n ta tomoni bo'lsa demak

$$\frac{(n-3)n}{2};$$

$$5) \left(\frac{P_1}{P_2} \right)^2 = \frac{S_1}{S_2}$$

$$S_1 + S_2 = 30 \quad S_1 = 30 - S_2$$

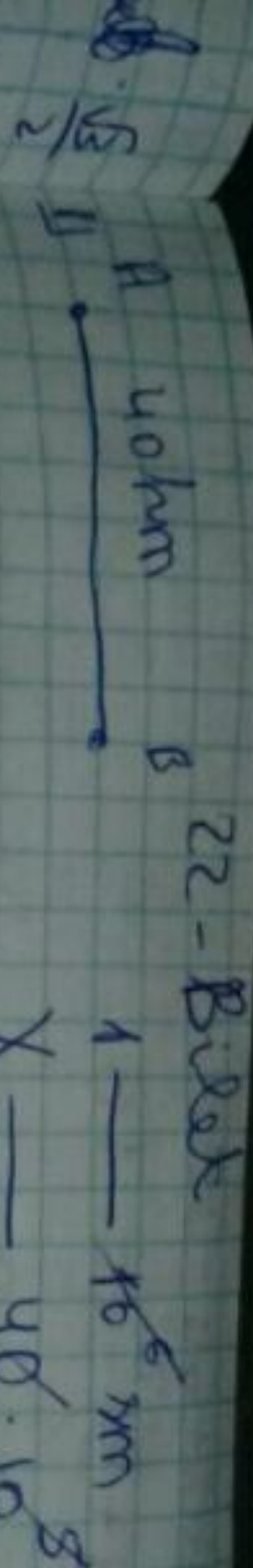
$$\left(\frac{18}{36} \right)^2 = \frac{30 - S_2}{S_2}$$

$$120 = 5 S_2$$

$$S_2 = 24 \text{ sm}^2$$

$$S_1 = 6 \text{ sm}^2$$

Jawab: 24, 6



$$X = 40 \cdot 10^3$$

$$X = 4 \text{ mm}$$

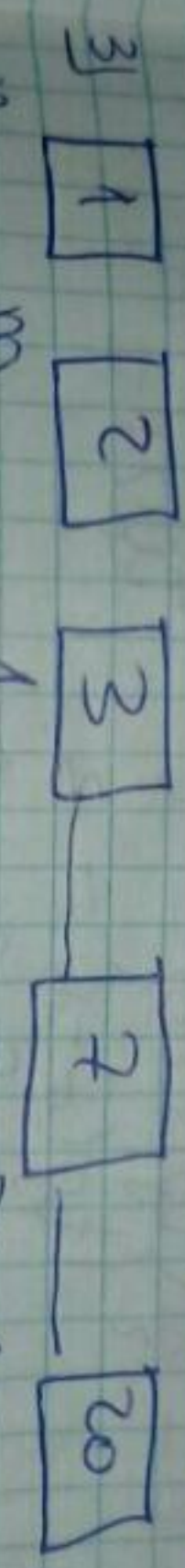
$$y = kx^2 - 8x + m$$

$$X_0 = \frac{-(-8)}{2 \cdot k} = 4$$

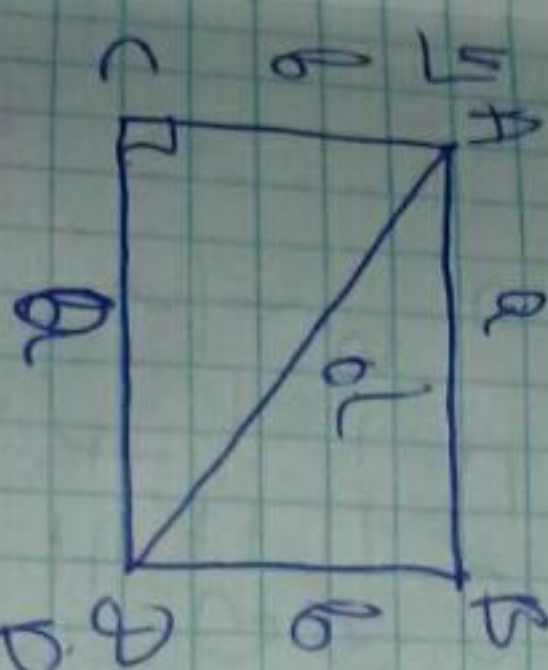
$$k = 1$$

$$-9 = 16 - 32 + m \quad m = 32 - 25 = 7$$

$$\text{Answer: } k = 1, m = 7$$



$$H = \frac{m}{n} = \frac{1}{20} = 0,05 \quad \text{Answer: } 0,05$$



(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100)

$$P = 2(a+b) \quad S = ab$$

$$d_1 = d_2 = d$$

$$d = \sqrt{a^2 + b^2}$$

$$5) x^2 + y^2 + 4x + 6y - 3 = 0$$

$$(x+2)^2 + (y+3)^2 = 16$$

$$O(-2, -3)$$

$$R = 4 \quad \text{Diameter: } 8$$

$$I \quad 2n$$

$$II \quad 2n+2$$

$$III \quad 2n+4$$

$$6n+6 = 300$$

$$6n = 294$$

$$n = 49$$

$$2n = 98$$

$$\text{Diameter: } 98, 100, 102$$

$$3) f - B = \frac{5}{2} \quad \left\{ \begin{array}{l} \log(f+B) = 5 \\ \log(f-B) = 3 \end{array} \right. \quad \log 2B = ?$$

$$\log \frac{5}{2} = 3$$

$$f = \frac{5}{2} + B$$

$$\log \left(\frac{5}{2} + 2B \right) = 5 \rightarrow -\log 2B = 5$$

$$\log 2B = -5$$

$$\text{Diameter:}$$

$$\log 2B = -\frac{1}{5}$$

$$2) \left(x + \frac{1}{x}\right)^2 - 3\left(x + \frac{1}{x}\right) - 4 = 0$$

$$x + \frac{1}{x} = t$$

$$(t-3)(t+1) = 0$$

$$x + \frac{1}{x} = 4 \quad x + \frac{1}{x} = -1$$

$$x^2 - 4x + 1 = 0 \quad x^2 + x + 1 = 0$$

$$\text{Diameter:}$$

$$x_1 \cdot x_2 = 1$$

$$\emptyset$$

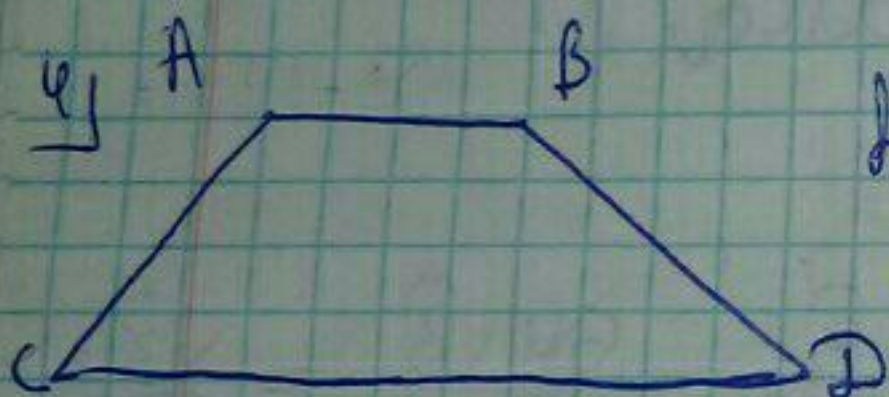
$$2) \quad x^2 - 5x + 1 = 0 \quad x_1^2 + x_2^2 = (x_1 + x_2)^2 - 2x_1x_2 \equiv ?$$

$$\begin{cases} x_1 + x_2 = 5 \\ x_1 \cdot x_2 = 1 \end{cases} = 5^2 - 2 = 25 - 2 = 23$$

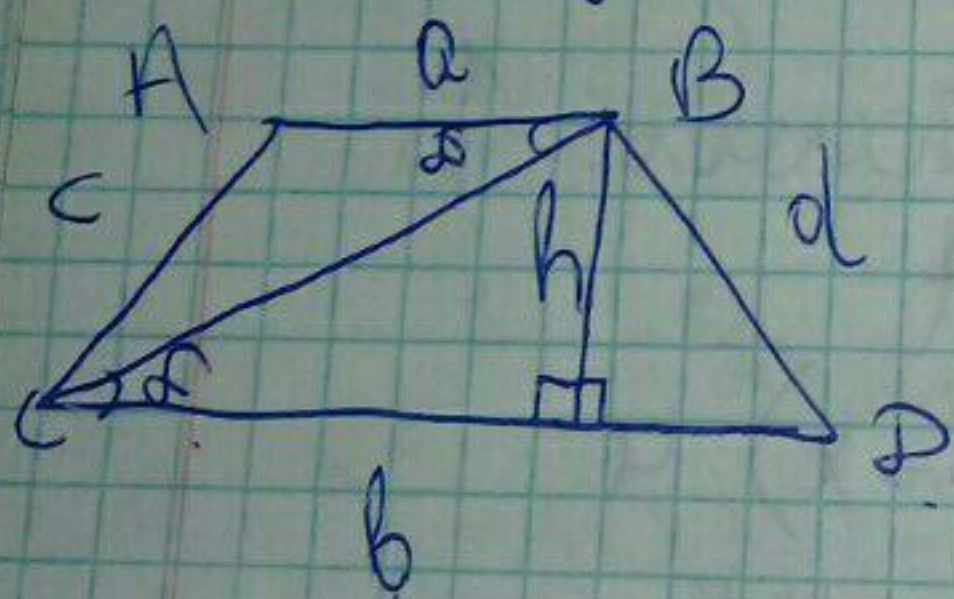
Jawab: 23;

$$3) \quad \cos 105^\circ + \cos 75^\circ = 2 \cdot \underbrace{\cos 90^\circ}_{0} \cdot \cos 15^\circ = 0$$

Jawab: 0



Ikhtaloflarga qarab - qarshi tomonlar
bir-biriga perpendikulyar
bo'lgan, shuning uchun ikki
tomoni bu tomonlarni bir-
birlariga aylantirishga aytildi.



$$S_{ABCD} = ?$$

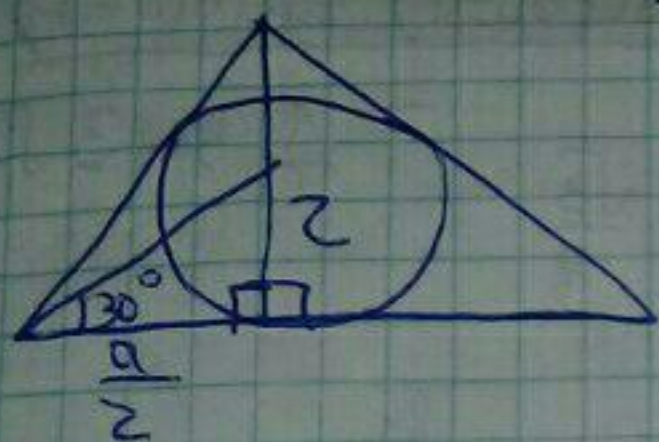
$$S_{ABCD} = S_{BCD} + S_{ACB} =$$

$$= \frac{ah}{2} + \frac{bh}{2} =$$

$$= \frac{a+b}{2} \cdot h = S_{ABCD}$$

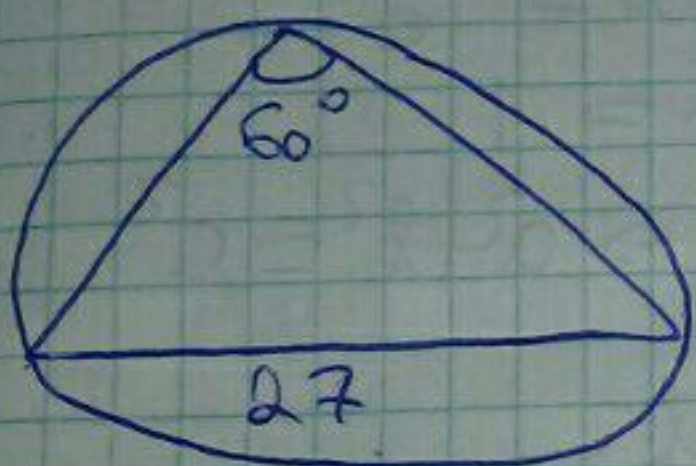
Isbotlandi

5



$$\operatorname{tg} 30^\circ = \frac{2r}{a}$$

$$r = \frac{1}{\sqrt{3}} \cdot a \cdot \frac{1}{2} = \frac{27}{2\sqrt{3}} = \frac{9\sqrt{3}}{2}$$

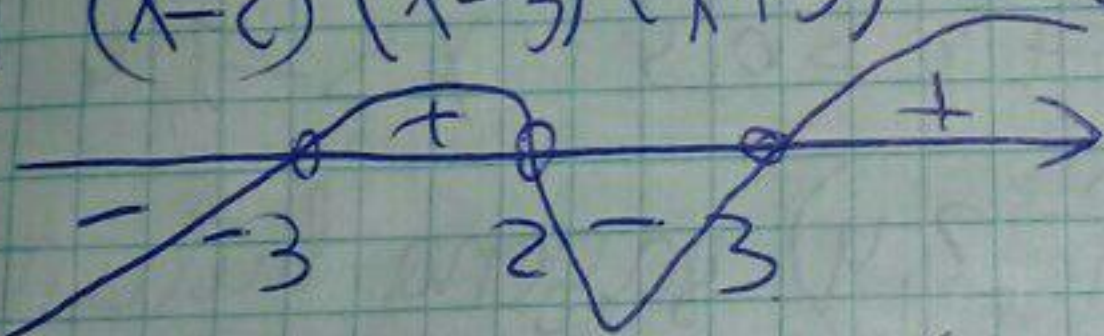


$$\begin{aligned} \frac{a}{\sin 60^\circ} &= 2R \rightarrow R = \frac{a}{2 \sin 60^\circ} = \\ &= \frac{27}{2 \cdot \frac{\sqrt{3}}{2}} = 9\sqrt{3} \end{aligned}$$

Ответ: $9\sqrt{3}$; $\frac{9\sqrt{3}}{2}$

25-Билет

$$1) (x-2)(x-3)(x+3) \geq 0$$



Ответ: $(-3; 2) \cup (3; \infty)$

$$2) (x+1)^2(x^2+2x)=12 \rightarrow x(x+1)(x^2+2x+1)(x^2+2x)=12$$

$$t^2 + t - 12 = 0 \quad x^2 + 2x + 4 = 0 \quad \text{D}$$

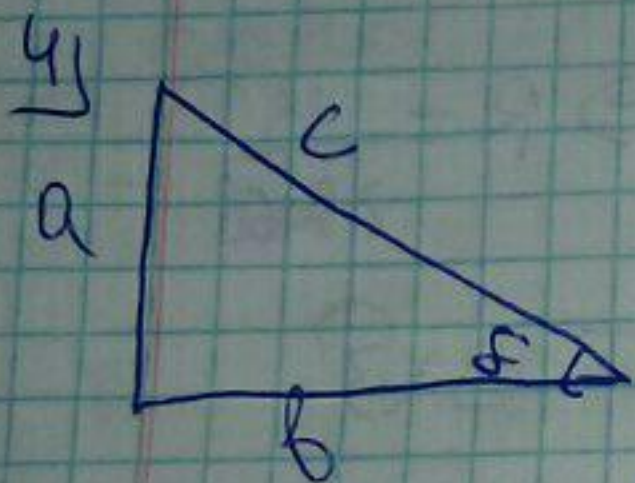
$$t_1 = -4 \quad t_2 = 3$$

$$x^2 + 2x - 3 = 0 \rightarrow (x+3)(x-1) = 0$$

Ответ: $-3; 1$

$$3) \sin 20^\circ \cdot \sin 40^\circ \cdot \sin 80^\circ = \frac{\sin f \cdot \sin(60-f) \cdot \sin(60+f)}{1} = \frac{1}{4} \sin 3f$$

$$= \frac{1}{4} \cdot \sin 60^\circ = \frac{\sqrt{3}}{8} \quad \text{Jawab: } \frac{\sqrt{3}}{8}$$

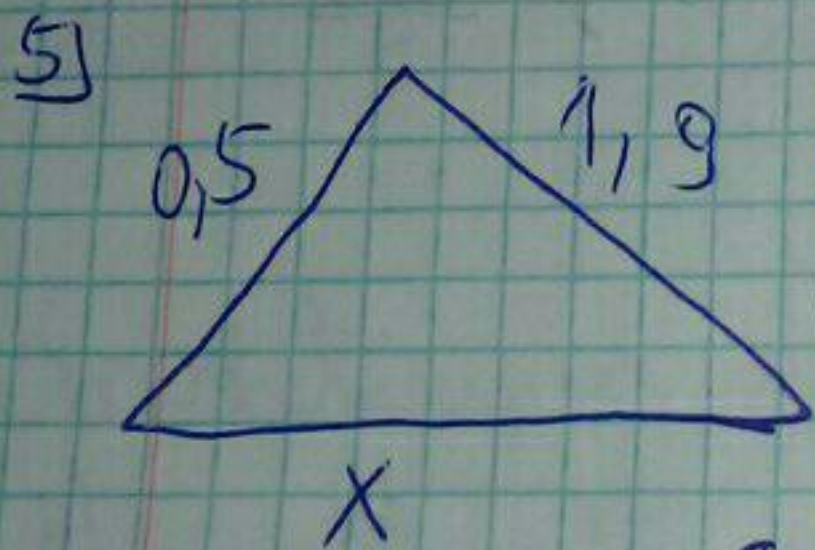


$$\sin f = \frac{a}{c} \quad \cos f = \frac{b}{c}$$

$$\sin^2 f + \cos^2 f = 1$$

$$\frac{a^2 + b^2}{c^2} = 1 \rightarrow a^2 + b^2 = c^2$$

Isbatlandi.



$$\begin{cases} 0.5 + 1.9 > x & x < 2.4 \\ 0.5 + x > 1.9 & x > 1.4 \\ 1.9 + x > 0.5 & x > -1.4 \end{cases}$$

$x \in (1.4; 2.4)$ yagona butun

Jawab: $x = 2$

$x = 2$

26 - Bilet

I) $\frac{150 \cdot 2}{5} = 60$ shifaxonaga

II 90 ta qoldi 90 - 100 = -10
y 60 y.

y = 54 ta

Jawab: 54 ta

$$2) \frac{x-5}{3} + \frac{x-y}{4} + 2,5 \geq \frac{x+3}{6} \quad | \cdot 12$$

$$4x - 20 + 3x - 12 + 30 \geq 2x + 6$$

$$7x - 2x \geq 32 - 24$$

$$5x \geq 8 \rightarrow x \geq 1,6 \quad [1,6; \infty)$$

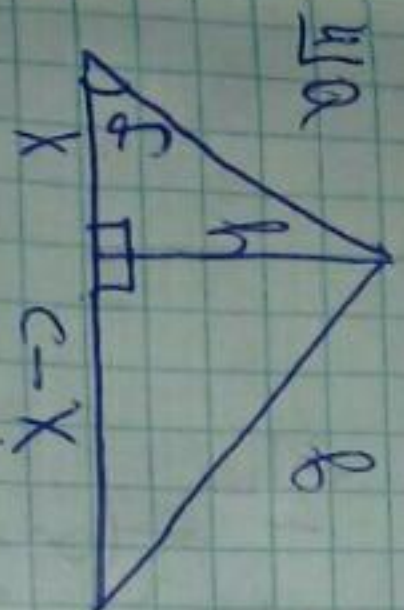
$$3) \lg\left(\frac{x}{4} - 5\right) = 2 \quad \text{chgf} = ?$$

$$\frac{\lg \frac{x}{4} - \lg 5}{1 + \lg \frac{x}{4} - \lg 5} = 2 \quad 1 - \lg 5 = 2 + 2 \lg 5$$

$$1 = -3 \lg 5$$

$$\lg 5 = -\frac{1}{3}, \text{chgf} = -3$$

Ответ: -3



$$\cos \gamma = \frac{x}{a}$$

$$x = a \cos \gamma$$



$$\begin{aligned} a^2 &= x^2 + h^2 \\ b^2 &= (c-x)^2 + h^2 \\ a^2 - b^2 &= x^2 + c^2 - 2cx + x^2 \\ a^2 - b^2 &= -c^2 + 2cx + x^2 \\ a^2 + c^2 - 2cx &= b^2 \end{aligned}$$

исполнени

$$\begin{aligned} 9 &= \frac{a^2 + c^2 - b^2}{2ac} \cos \gamma = \frac{16 + 12 - 1}{2 \cdot 6 \cdot 10} \\ &= 16 \cdot 6 = 96 \quad \text{Ответ: } 96 \end{aligned}$$

22-Bilet

1) $3X + 7X + 11X = 231$

$21X = 231 \quad X = 11$

$13X = 33$; $I^2X + 77$; $III \ 11X = 121$

2)



Umumiy $\rightarrow 19ta$
 Grail $\rightarrow 6 ta$

$u = \frac{\text{Grail}}{\text{umumiy}} = \frac{6}{10} = 0,6$

Javob: 0,6

3) $\left(\frac{1}{3} + X \right) : 7 = \left(\frac{3}{4} + X \right) : 3$

$3 + 8X = \frac{21}{4} + 7X$

$2X = \frac{21}{4} - 3$

$2X = \frac{9}{4}$

$X = \frac{9}{8} = 1\frac{1}{8}$

Javob: $1\frac{1}{8}$

4)



Vertical burchaklar o'zaro

tenq qaradima - o'zaro bo'lad.

O'sha burchaklar $\angle B$ va $\angle C$

het xafa bo'lgan bo'lad.

$\angle A + \angle B = 180^\circ$



$$p_B \cdot p_C = p_B \cdot p_A$$

$$6 \cdot 20 = 10 \cdot (10 + x)$$

$$12 = 10 + x$$

$$12 = 10 + x$$

$$\boxed{2=x}$$

28-Bild

$$0 = 2 - x + 2x^2$$

$$\frac{1}{2} - \frac{1}{2} = 0$$

$$\frac{w}{2^0} = 2x \cdot \frac{1}{2}$$

$$X_1 = \log \delta, \quad X_2 = \log \beta$$

1-4569B

$$\begin{array}{c} \omega / 5 \quad \omega / 2 \\ \parallel \\ \omega / 2 \end{array}$$

[illegible]

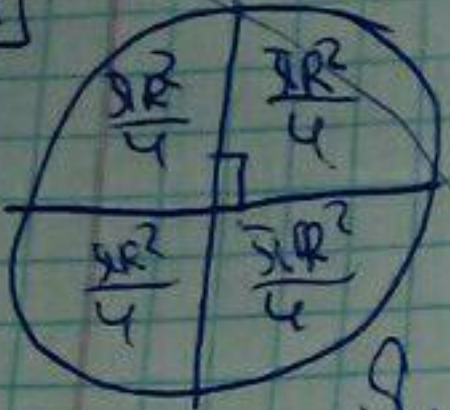
David: $-\frac{1}{8}$

$$S_8 = \frac{b_1 \cdot (a_8^2 - 1)}{(a_8 - 1)}$$

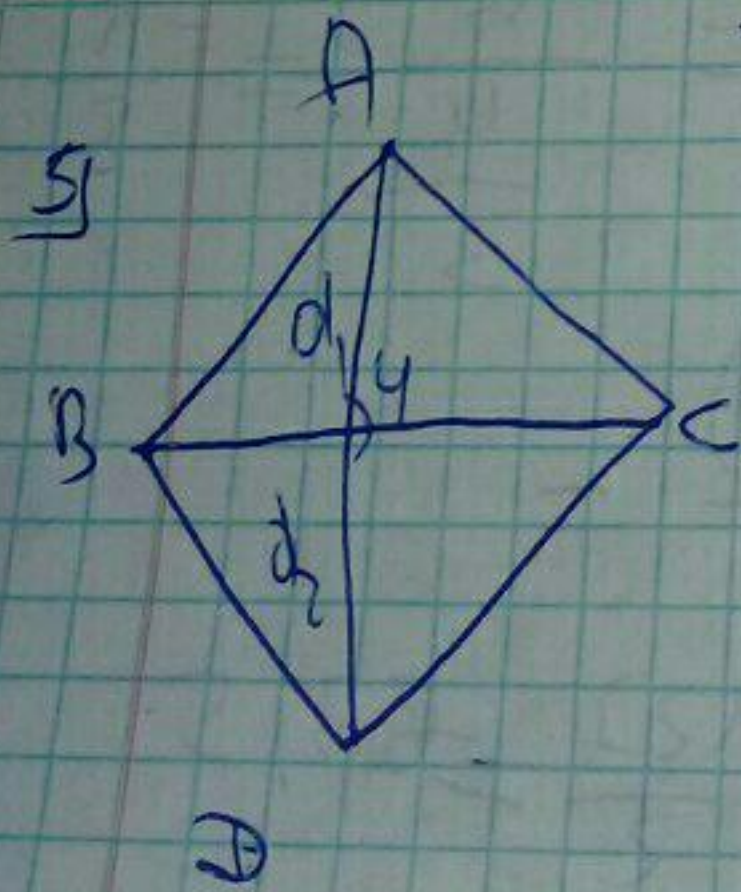
$$5'59 = \frac{2}{2} = \frac{127}{127} = \frac{128-1}{128-1} = \frac{2}{2} = 1$$

David: 63, 5

$$\begin{aligned}
 3) \cos(f-B) - \cos f \cos B &= \\
 &= \cancel{\cos f \cos B} + \sin f \sin B - \cancel{\cos f \cos B} = \\
 &= \sin f \sin B \quad \text{Jawab: } \sin f \sin B
 \end{aligned}$$

4)  Tortni kesganimida hosil bo'ladigan bōlaklar doirani bōlaklari hisoblanadi. $S_{\text{um}} = \pi R^2$ hozir doirani 4 dan 1 qismi uchun ishlaymiz.

$$\begin{aligned}
 \frac{360^\circ}{4} &= 90^\circ \rightarrow \text{ok} \\
 360^\circ - \pi R^2 & \\
 90^\circ - S_K & \quad \boxed{S_K = \frac{\pi R^2}{4}} \quad \text{Jawab: } \frac{\pi R^2}{4}
 \end{aligned}$$



$$\begin{aligned}
 S'_{\text{Area}} &= \frac{d_1 d_2}{2} \cdot \sin \alpha = \\
 &= \frac{16 \cdot 30}{2} \cdot \sin 30^\circ = \frac{16 \cdot 30}{4} = \\
 &= 120 \quad \text{Jawab: } 120
 \end{aligned}$$

29 - Bilet

$$1) (x^2+9)^2 - (6x)^2 = (x^2+9-6x)(x^2+9+6x) = \\ = (x-3)^2 (x+3)^2 = (x^2-9)^2$$

Jawab $(x^2-9)^2$

2) $y = \frac{3x+7}{4x+19}$ aniqlanish sohasi
x qabul qilinadigan
qiymatlar hisoblanadi.

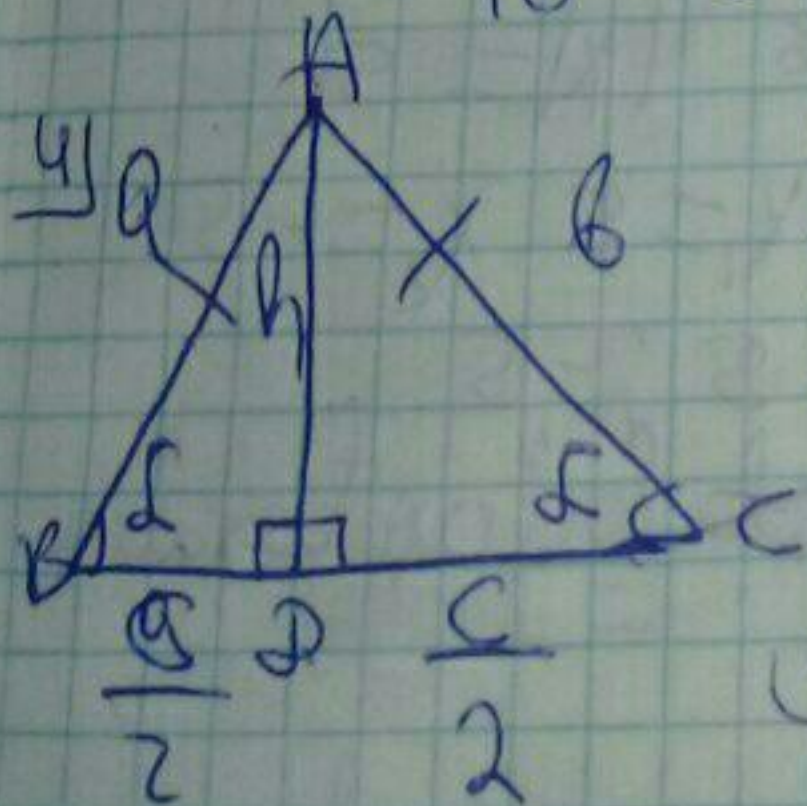
3) $\boxed{\text{maxraj} \neq 0}$

$4x+19 \neq 0 \quad 4x \neq -19 \quad x \neq -\frac{19}{4}$

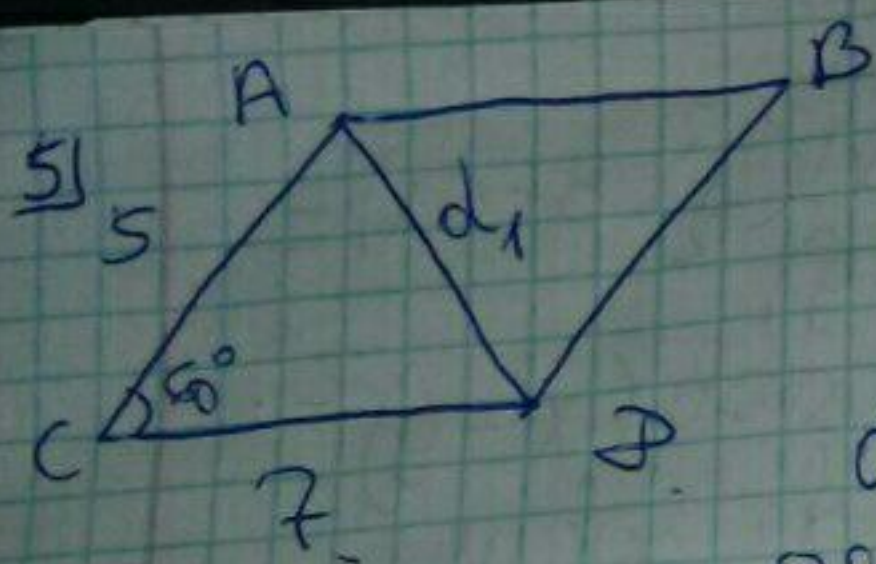
Jawab: $(-\infty; -\frac{19}{4}) \cup (-\frac{19}{4}; \infty)$

$$3) \frac{\lg \frac{3\sqrt{11}}{16} - \lg \frac{5\sqrt{11}}{16}}{1 + \lg \frac{3\sqrt{11}}{16} \cdot \lg \frac{5\sqrt{11}}{16}} = \lg \left(\frac{3\sqrt{11}}{16} - \frac{5\sqrt{11}}{16} \right) = \lg \frac{\sqrt{11}}{4} =$$

= $\boxed{1}$ Jawab: 1



Teng yonli uchburchakning
balandligi uni ikkita o'xshash
uchburchakka ajratadi.
va tomonni teng ikkiga
bo'ladi.



$$d_1^2 = 25 + 49 - 2 \cdot 5 \cdot 7 \cdot \frac{1}{2}$$

$$d_1^2 = 74 - 35$$

$$d_1^2 = 39 \quad d_1 = \sqrt{39}$$

$$d_1^2 + d_2^2 = 2(a^2 + b^2)$$

$$39 + d_2^2 = 2 \cdot 74$$

$$d_2^2 = 148 - 39$$

$$d_2^2 = 109 \quad d_2 = \sqrt{109}$$

Jawab: $\sqrt{39}$; $\sqrt{109}$

30 - Bilet

$$\begin{cases} \text{I} \text{ } \rightarrow \text{ } \text{ } - x \\ \text{II} \text{ } \text{ } - 2x \end{cases} \quad \begin{aligned} 3x &= 120 \text{ g} \\ x &= 40 \text{ g} \end{aligned}$$

Jawab: 40; 80

$$2) \quad x^2 + |x| - 30 = 0$$

$$|x| = t$$

$$t^2 + t - 30 = 0$$

$$|x| = -6 \quad |x| = 5$$

$$(t+6)(t-5) = 0$$

$$\emptyset \quad x_1 = 5 \quad x_2 = -5$$

$$t_1 = -6 \quad t_2 = 5$$

Jawab: 5; -5

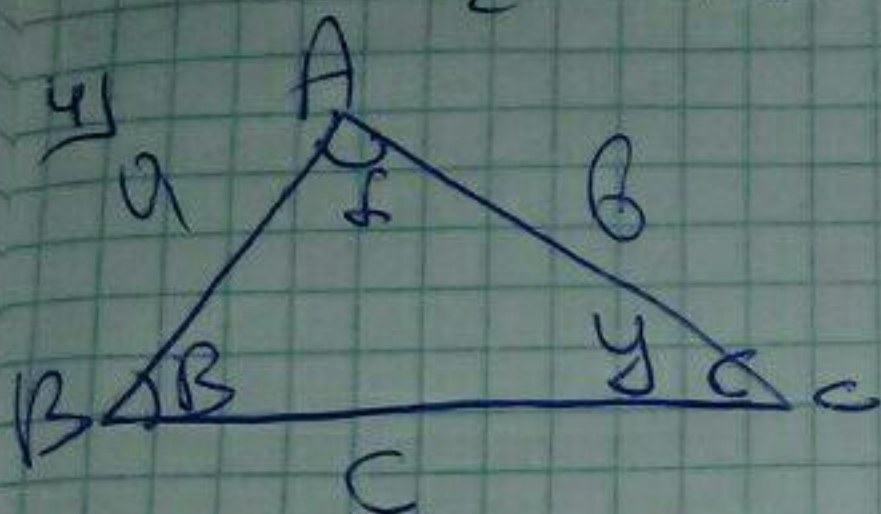
3) smarta tashlanibdi gerb bilan tashibdi

x ay bu hetti tashlanadi.

$U = \frac{\text{mecha}}{\text{um}}$ smarta zta tommoni bor

$$v = \frac{1}{2} = 0,5$$

$$\text{Zunahme: } 0,5$$



$$S = \frac{ab}{2} \cdot \sin \alpha$$

$$S = \frac{bc}{2} \cdot \sin \gamma$$

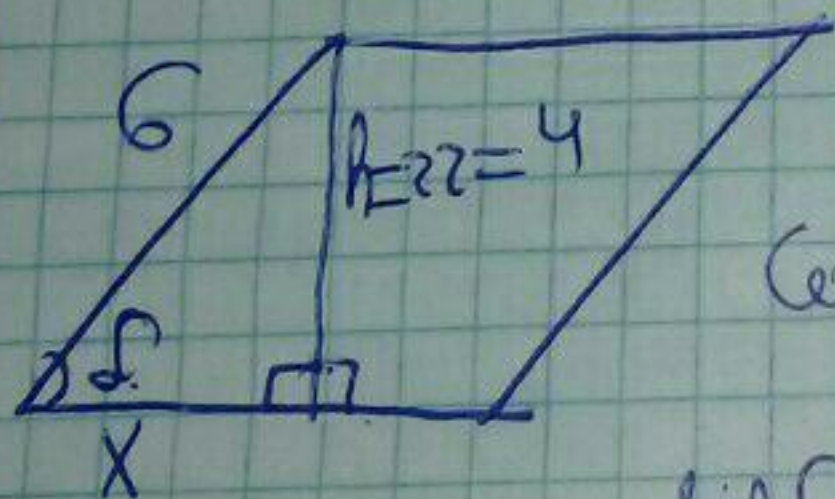
$$S = \frac{ac}{2} \cdot \sin \beta$$

$$\frac{ab}{2} \cdot \sin \alpha = \frac{bc}{2} \cdot \sin \gamma = \frac{ac}{2} \cdot \sin \beta$$

$$\frac{a}{\sin \gamma} = \frac{c}{\sin \alpha} = \frac{b}{\sin \beta} = \frac{a}{\sin \gamma}$$

Lebottanoni;

5



$$6^2 = 4^2 + x^2 \quad x^2 = 36 - 16$$

$$x = 2\sqrt{5}$$

$$\cos \alpha = \frac{x}{6} = \frac{2\sqrt{5}}{6} = \frac{\sqrt{5}}{3}$$

$$\sin \alpha = \frac{4}{6}$$

$$\frac{4}{6} + \cos^2 \alpha = 1$$

$$\cos^2 \alpha = \frac{\sqrt{5}}{3}$$

$$\text{Zunahme: } \frac{\sqrt{5}}{3}$$