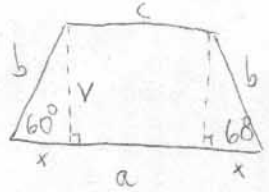


5)  $\sigma = 400$

$f(b) = S(b) = \left(\frac{400-2b}{2}\right) \cdot \frac{b\sqrt{3}}{2} = (200-b) \frac{b\sqrt{3}}{2} = 100\sqrt{3}b - \frac{b^2\sqrt{3}}{2}$

$\uparrow$

$\hookrightarrow S = \frac{a+c}{2} \cdot v = \frac{\sigma-2b}{2} \cdot v = \frac{(\sigma-2b) \cdot b\sqrt{3}}{2}$

$\sin 60^\circ = \frac{v}{b} \Rightarrow v = b \sin 60^\circ = \frac{b\sqrt{3}}{2}$

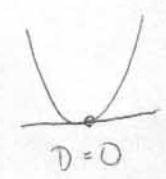
2) $f(x) = x^2 - 4mx + 4m^2 - 25m + 200$

$D = (-4m)^2 - 4(4m^2 - 25m + 200)$

$D = 16m^2 - 16m^2 + 100m - 800$

$0 = 100m - 800$

$m = 8$



3) $f(x) = ax^2 + bx + c$

$A(2,7), y = (x+1)^2 + 2$

$\hookrightarrow T(-1,2)$

A: $7 = 4a + 4 + c$

T: $2 = a - 2 + c$

$4a + c = 3$

$a + c = 4 \quad (-1)$

$3a = -1$

$a = -1/3$

$c = 4 - a = 13/3$

$f(x) = -\frac{1}{3}x^2 + 2x + \frac{13}{3}$

4) a) $\sqrt[4]{ab^3} \cdot a^{1/2} \cdot b^{-3/2} \cdot \sqrt[3]{a^2b} =$

$= a^{1/4} \cdot b^{3/4} \cdot a^{1/2} \cdot b^{-3/2} \cdot a^{-1/3} \cdot b^{-1/6} =$

$= a^{\frac{3+1-4}{12}} \cdot b^{\frac{9-7-2}{12}} =$

$= 1$

b) $\frac{5^{3x-2} + 3 \cdot 5^{3x-3} - 7 \cdot 5^{3x-4}}{5^{3x-4} + 2 \cdot 5^{3x-3}} =$

$= \frac{5^{3x-4}(5^2 + 3 \cdot 5 - 7)}{5^{3x-4}(1 + 2 \cdot 5)} =$

$= \frac{25 + 15 - 7}{1 + 10} = \frac{33}{11} = 3$

$f(b) = -\frac{\sqrt{3}}{2}b^2 + 100\sqrt{3}b$

$p = -\frac{100\sqrt{3}}{2 \cdot (-\frac{\sqrt{3}}{2})} = 100$

$\Rightarrow b = 100$ (lucak)

$a + c = 300$

$\frac{x}{b} = \cos 60^\circ \Rightarrow x = b \cdot \cos 60^\circ = \frac{b}{2}$

$x = 50$

$\Rightarrow a - c = a - 2x = 100$

$\Rightarrow c = 100, a = 200$

c)

$\frac{6\sqrt{5}-5\sqrt{6}}{\sqrt{6}-\sqrt{5}} + \frac{6\sqrt{6}}{\sqrt{6}+\sqrt{5}} + 5\sqrt{30} =$

$= \frac{(6\sqrt{5}-5\sqrt{6})(\sqrt{6}+\sqrt{5}) + 6\sqrt{6}(\sqrt{6}-\sqrt{5})}{(\sqrt{6}-\sqrt{5})(\sqrt{6}+\sqrt{5})} + 5\sqrt{30} =$

$= \frac{6\sqrt{30} - 5\sqrt{6} + 6\sqrt{5} - 5\sqrt{30} + 6\sqrt{6} - 6\sqrt{30}}{1} + 5\sqrt{30} =$

$= 36$

1) $x_1 = 1, x_2 = 2$

$A(0, -2), T(\frac{3}{2}, \frac{1}{4})$

$g(x) = x^2 - 3x + 2$

$N \mid S \cap A$

$Z_f: (-\infty, \frac{1}{4}], I = [\frac{3}{2}, \infty)$

$f(x) > 0 \Leftrightarrow 1 < x < 2$

2) $m = -1/2$

3) $f(x) = 3x^2 + 2x + 1$

4) a) 1, b) 1/7

c) 9

DESISTIVE

1) $f: \mathbb{R} \rightarrow \mathbb{R}, f(x) = x^2 - 5x + 4$

nile: $(x-4)(x-1) = 0 \quad a > 0$

$x_1 = 4, x_2 = 1$

temo: $p = \frac{x_1 + x_2}{2} = \frac{5}{2}$

$g = f(p) = \left(\frac{5}{2}\right)^2 - 5\left(\frac{5}{2}\right) + 4 =$

$= \frac{25}{4} - \frac{25}{2} + 4 = \frac{25 - 50 + 16}{4} =$

$= -\frac{9}{4} \Rightarrow T(\frac{5}{2}, -\frac{9}{4})$

b) $h(x) = |f(-x)| = |(-x)^2 - 5(-x) + 4| = |x^2 + 5x + 4|$

$h(-x) \neq h(x) \Rightarrow$ zato h ni soda funkcija

[lahko bi tudi rekli: nile $h(x)$ niso skenirane glede na $y = \infty$, zato ni soda]

c) $(-\infty, \frac{5}{2}]$

ali $[\frac{5}{2}, \infty)$

$f: [-9/4, \infty)$

d) $f(x) > 0 \Leftrightarrow x \in (-\infty, 1) \vee$

$x \in (4, \infty)$

$A(0, 4)$

[guf naren]