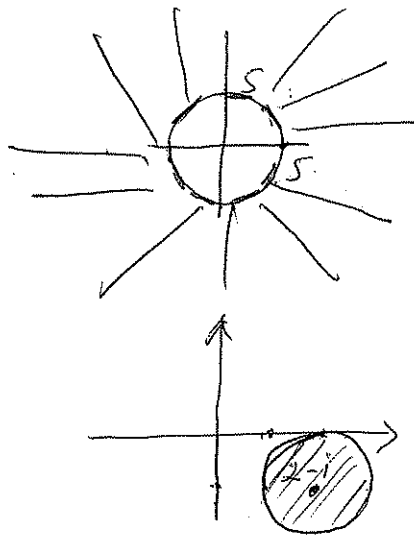


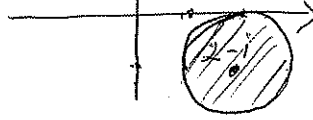
1. $|z| > 5$

לעומת פונקציה
 $z_0 = 0 \rightarrow$ ישונה
 $r = 5$ אזור פתוח



2. $|z - 2 + i| \leq 1$

ישונה סגור
 $r = 1$ אזור פתוח
 $z_0 = 2 - i \rightarrow$
 (לעומת פונקציה)

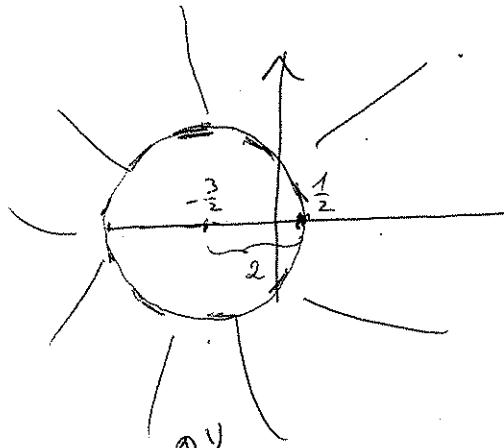


3. $|2z + 3| > 4$

$2|z - (-\frac{3}{2})| > 4$

$|z - (-\frac{3}{2})| > 2$

פיננה פתוח
 ישונה פתוח לעומת
 $r = 2$ אזור פתוח
 $z_0 = -\frac{3}{2}$



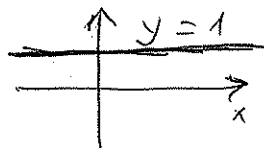
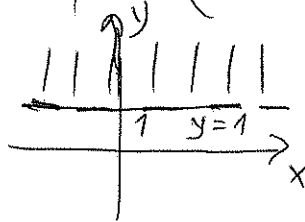
4. $\text{Im } z > 1$

$y > 1$

$y > 1$ אזור פתוח

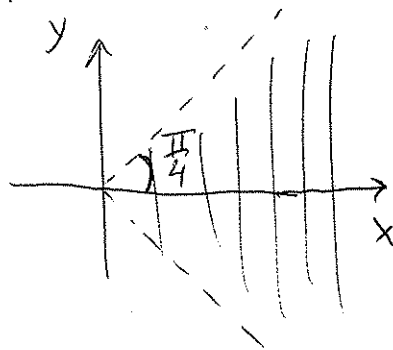
5. $\text{Im } z = 1$

$y = 1$ אזור סגור



6. $|\arg z| < \frac{\pi}{4}$

$-\frac{\pi}{4} < \arg z < \frac{\pi}{4}$



7. $|z + 1| = |2z - 1|$

$|x + iy + 1| = |2x + 2iy - 1|$

$\sqrt{(x+1)^2 + y^2} = \sqrt{(2x-1)^2 + (2y)^2}$

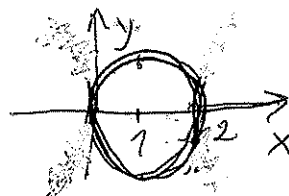
$x^2 + 2x + 1 + y^2 = 4x^2 - 4x + 4y^2 + 1$

$3x^2 - 6x + 3y^2 = 0$

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

$3(x-1)^2 + 3y^2 = 3$

$(x-1)^2 + y^2 = 1$



8. $|z - 4| \geq |z|$

$|x + iy - 4| \geq |x + iy|$

$\sqrt{(x-4)^2 + y^2} \geq \sqrt{x^2 + y^2}$

~~$x^2 - 8x + 16 + y^2 \geq x^2 + y^2$~~

~~$-8x + 16 \geq 0$~~

~~$-8x \geq -16$~~

~~$x \leq 2$~~

$x \leq 2$

