Tarea 1:

Encontrar los tipos de operadores para la and (y) y para la or (o)

Usando matlab graficar:

$$\underset{\sim}{\mu_A}(x) = \frac{1}{\left(1+\frac{x}{5}\right)^3} \qquad \underset{\sim}{\mu_B}(x) = \frac{1}{1+3(x-5)^2} \qquad 0 \le x \le 20$$

GRAFICAR

$\underset{\sim}{A},$

$\underset{\sim}{B},$

$\overline{\underset{\sim}{A}}$

$\overline{\underset{\sim}{B}}$

$\underset{\sim}{A} \cup \underset{\sim}{B}$

$\underset{\sim}{A} \cap \underset{\sim}{B}$

$\overline{\underset{\sim}{A}} \cap \overline{\underset{\sim}{B}},$

$\overline{\underset{\sim}{A}} \cup \overline{\underset{\sim}{B}},$

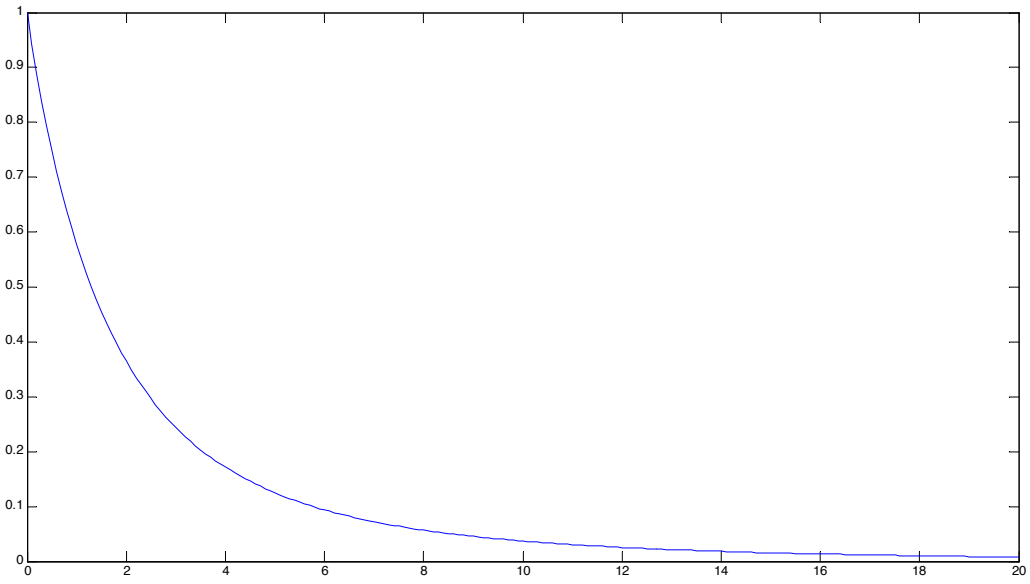
$\underset{\sim}{A} \cap \overline{\underset{\sim}{A}},$

$\underset{\sim}{B} \cap \overline{\underset{\sim}{B}},$

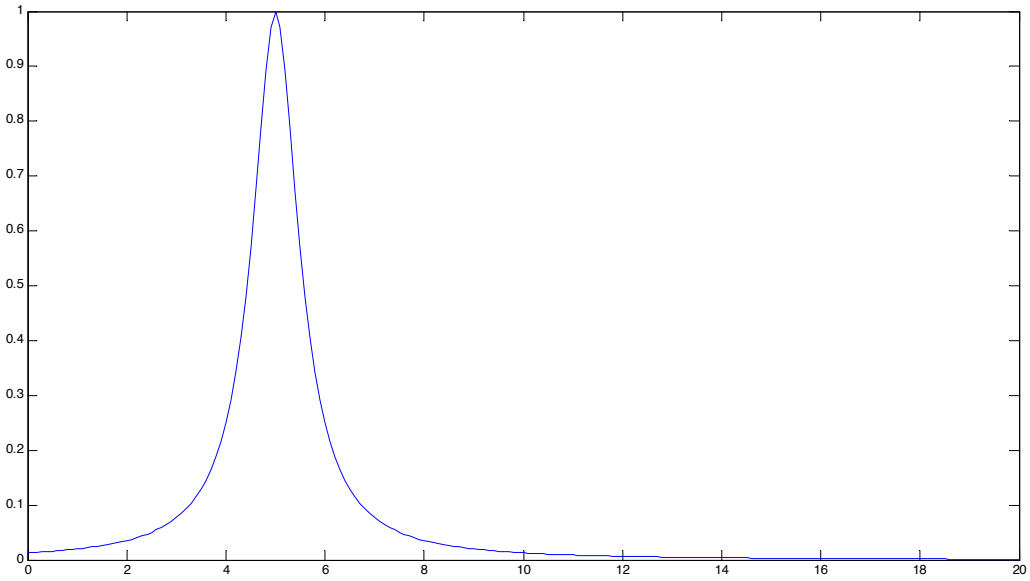
Código en matlab

```
x=[0:0.1:20];

muA=((1+x/5).^3).^-1;
muB=(1+3*(x-5).^2).^-1;
plot(x,muA)
plot(x,muB)

muA_neg=1-((1+x/5).^3).^-1;
muB_neg=1-(1+3*(x-5).^2).^-1;
plot(x,muA_neg)
plot(x,muB_neg)

A_union_B=max(muA,muB);
plot(x,A_union_B)
A_interseccion_B=min(muA,muB);
plot(x,A_interseccion_B)
A_neg_union_B_neg=max(muA_neg,muB_neg);
plot(x,A_neg_union_B_neg)
A_neg_inters_B_neg=min(muA_neg,muB_neg);
```

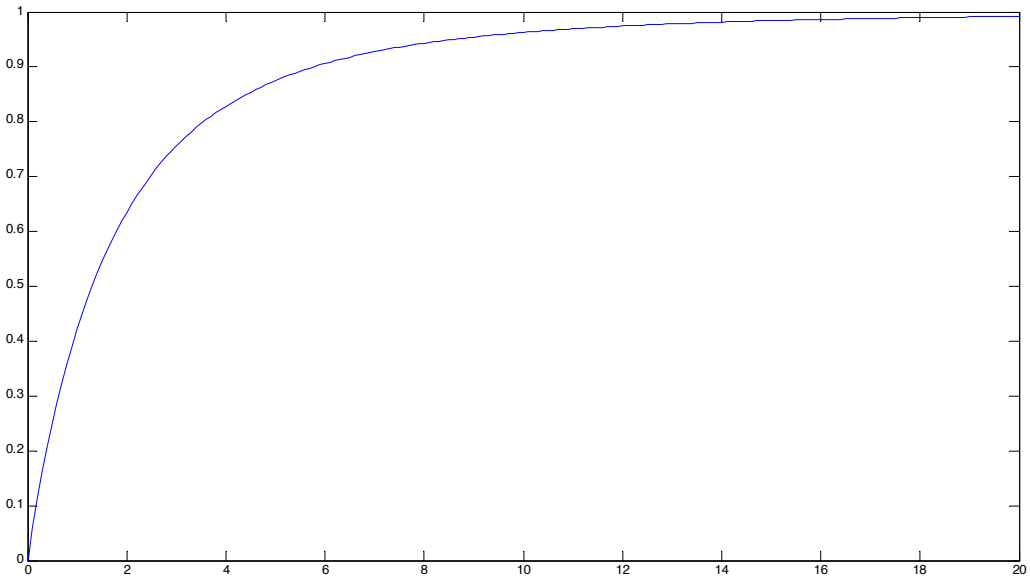
```
plot(x,A_neg_inters_B_neg)
A_inters_A_neg=min(muA,muA_neg);
plot(x,A_inters_A_neg)
B_inters_B_neg=min(muB,muB_neg);
plot(x,B_inters_B_neg)
```



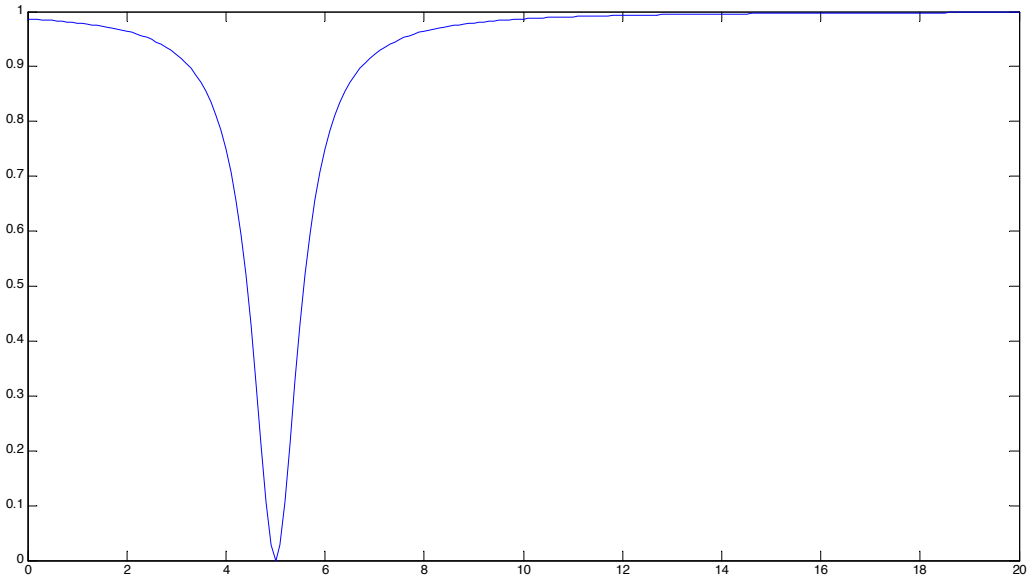
$\underset{\approx}{A},$



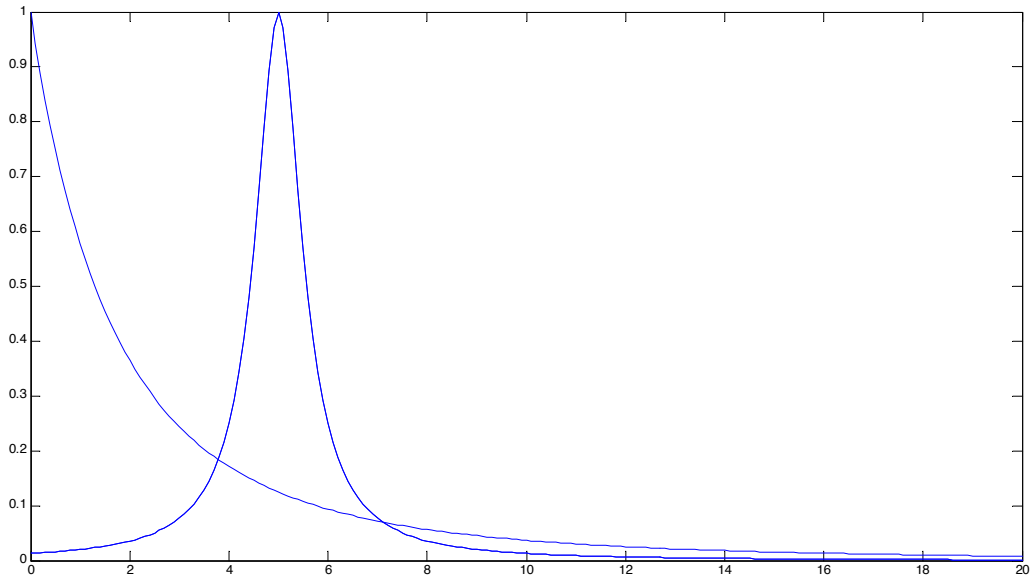
$\underset{\approx}{B},$



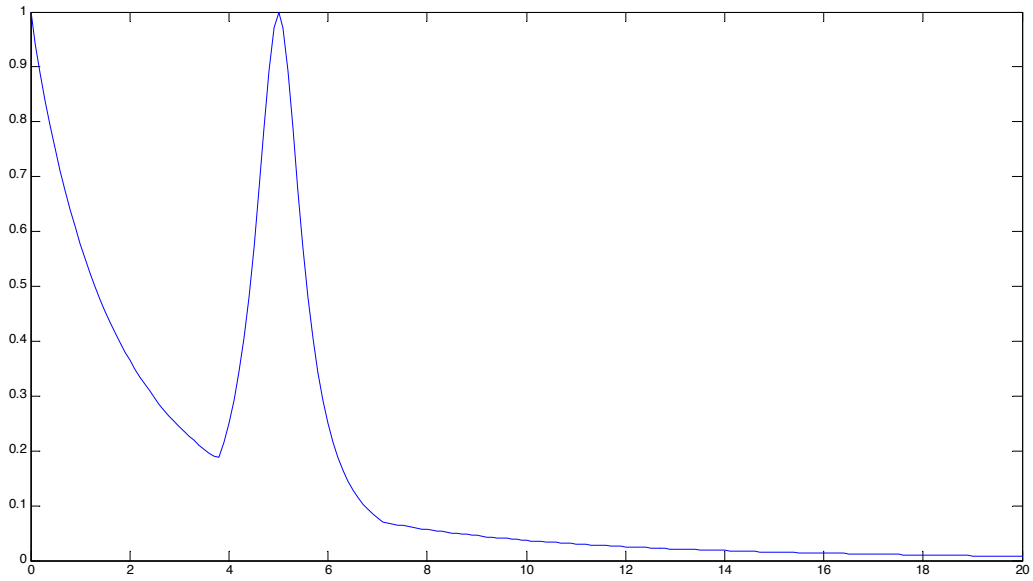
$\overline{A}$
≈



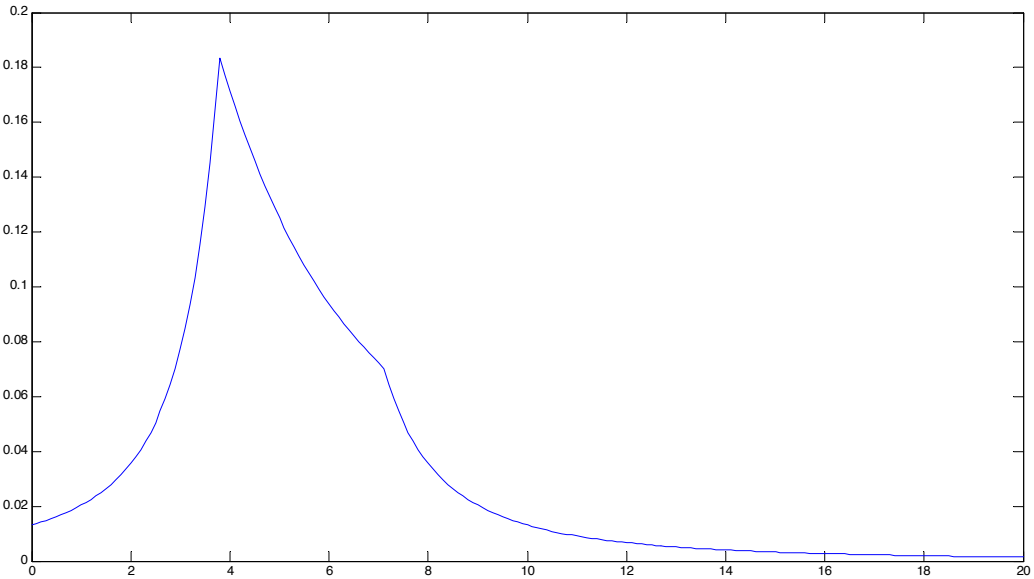
$\overline{B}$
≈



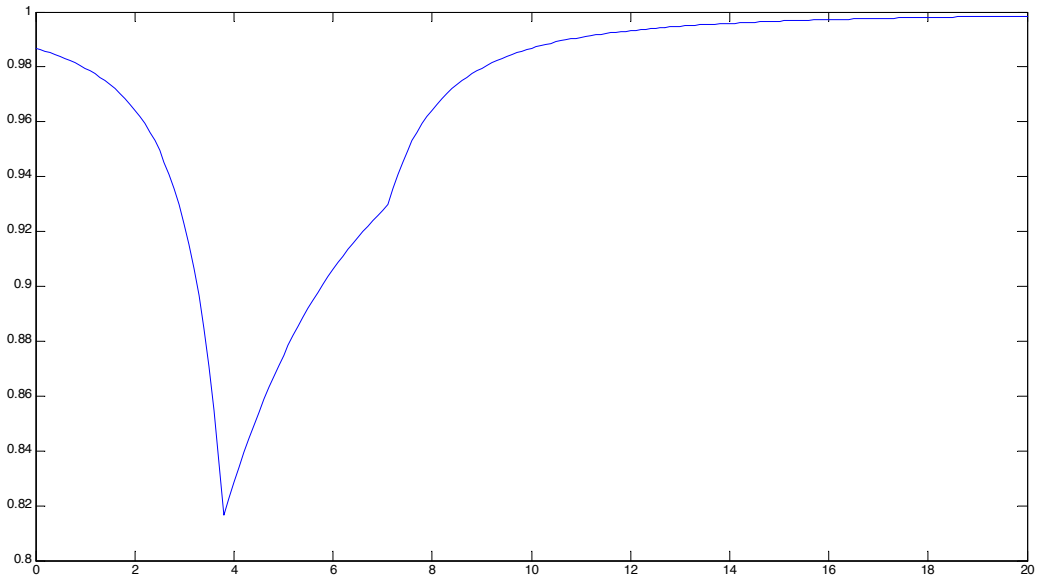
graficas de A de B


1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
2
4
6
8
10
12
14
16
18
20

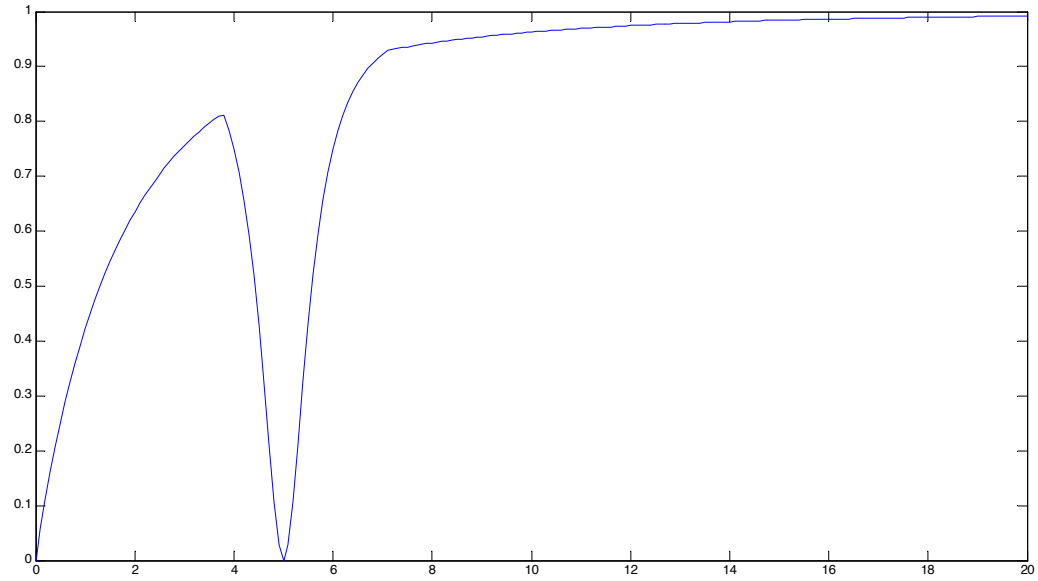
$$A \cup B$$


0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
2
4
6
8
10
12
14
16
18
20

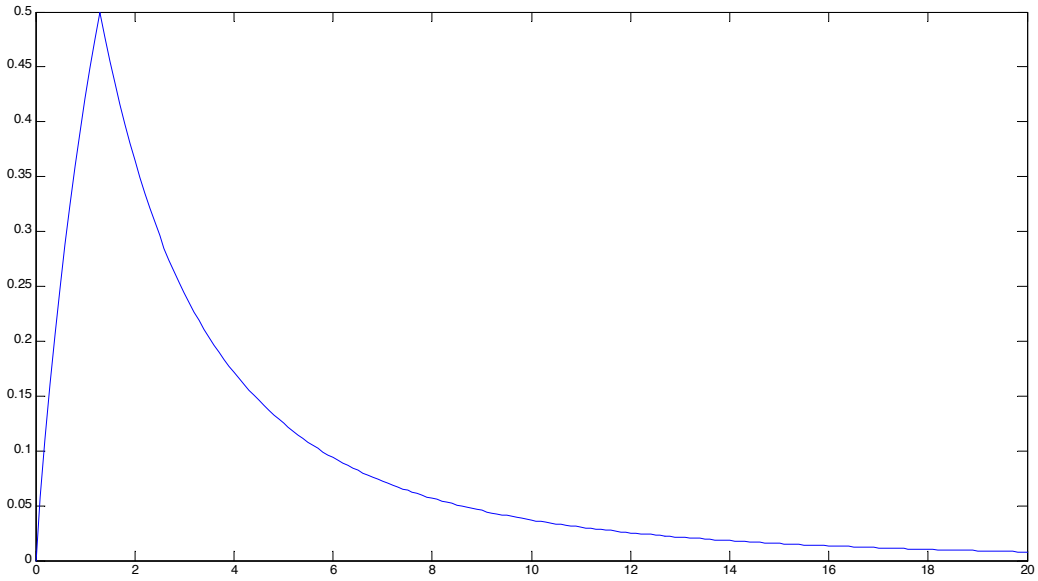
$$A \cap B$$



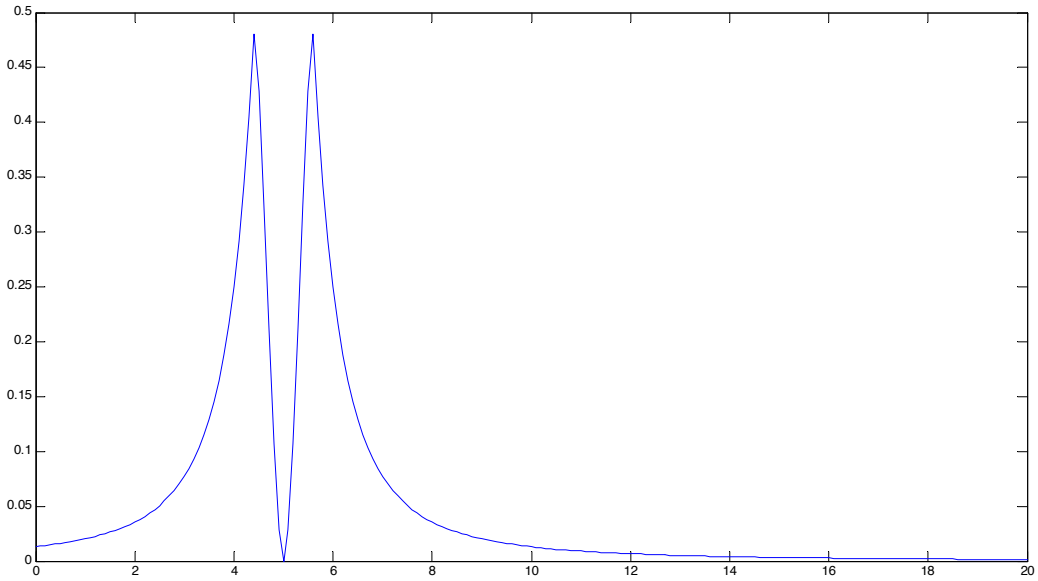
$$\overline{\underset{\approx}{A}} \cap \overline{\underset{\approx}{B}},$$



$$\overline{\underset{\approx}{A}} \cap \overline{\underset{\approx}{B}},$$



$$\underset{\approx}{A} \cap \underset{\approx}{\overline{A}},$$



$$\underset{\approx}{B} \cap \underset{\approx}{\overline{B}},$$