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LAMPIRAN

- Sintax Matlab untuk Gambar 2.3.

```
clear all
clc
t = 0:0.001:10;
y = sin(2.*pi.*t);
yi = smooth(y);
fig=figure;
fig.Position(3:4)=[390,205];
plot(t,yi,'color','b','LineWidth',2)
ylim([-1.1 1.1]);
set(gca,'XTick',[0:1:10]);
set(gca,'YTick',[-1:0.2:1]);
set(gca,'FontSize',20);
xlabel('\bf\it)t$', 'Interpreter','Latex','fontsize',30,'Color','b');
ylabel('\bf\it)g(t)$', 'Interpreter','Latex','fontsize',30,'Color','b');
grid on
```

- Sintax Matlab untuk Gambar 2.4 (a).

```
clear all
clc
f = 0:0.001:3;
y = -((2.*pi.*(-1+exp(-20.*i.*pi.*f)))/(4.*pi.^2-4.*pi.^2.*f.^2));
yi = imag(y);
y_real = real(y);
fig=figure;
fig.Position(3:4)=[390,205];
plot(f,y_real,'color','b','LineWidth',2)
hold on
plot(f,yi,'color','r','LineWidth',2)
ylim([-6 4]);
set(gca,'XTick',[-3:1:3]);
set(gca,'YTick',[-6:1:4]);
set(gca,'FontSize',20);
xlabel('\bf\it)f$', 'Interpreter','Latex','fontsize',25,'Color','b');
ylabel('\bf\it)\mathcal{F}\{g\}(2\pi f)$', 'Interpreter','Latex','fontsize',25,'Color','b');
legend('Riil','Imajiner')
grid on
```

- Sintax Matlab untuk Gambar 2.4 (b).

```
clear all
clc
w = 0:0.001:20;
y = -((2.*pi.*(-1+exp(-10.*i.*w)))/(4.*pi.^2-w.^2));
yi = imag(y);
y_real = real(y);
fig=figure;
fig.Position(3:4)=[390,205];
plot(w,y_real,'color','b','LineWidth',2)
```

```

hold on
plot(w, yi, 'color', 'r', 'LineWidth', 2)
ylim([-6 4]);
set(gca, 'XTick', [-20:1:20]);
set(gca, 'YTick', [-6:1:4]);
set(gca, 'FontSize', 20);
xlabel('$\{\bf\it\}\{\omega\}$', 'Interpreter', 'Latex', 'fontsize',
30, 'Color', 'b');
ylabel('$\{\bf\it\}\mathcal{F}\{\g\}\{\omega\}$', 'Interpreter', 'La
tex', 'fontsize', 30, 'Color', 'b');
legend('Riil', 'Imajiner')
grid on

```

- Sintax Matlab untuk Gambar 2.5, Gambar 2.7 (a), Gambar 2.9 (a) dan Gambar 2.11 (a).

```

clear all
clc
t = -5:0.001:5;
y = exp(-abs(t));
yi = smooth(y);
fig=figure;
fig.Position(3:4)=[390,205];
plot(t, yi, 'color', 'b', 'Linewidth', 2)
set(gca, 'XTick', [-5:5]);
set(gca, 'YTick', [0:0.1:1]);
set(gca, 'FontSize', 20);
xlabel('$\{\bf\it\}t$', 'Interpreter', 'Latex', 'fontsize', 30, 'Col
or', 'b');
ylabel('$\{\bf\it\}g(t)$', 'Interpreter', 'Latex', 'fontsize', 30, '
Color', 'b');
grid on

```

- Sintax Matlab untuk Gambar 2.6 (a).

```

clear all
clc
f = -10:0.001:10;
y = 2./(1+4.*pi.^2.*f.^2);
yi = smooth(y);
fig=figure;
fig.Position(3:4)=[390,205];
plot(f, yi, 'color', 'b', 'Linewidth', 2)
set(gca, 'XTick', [-10:2:10]);
set(gca, 'YTick', [0:0.2:2]);
set(gca, 'FontSize', 20);
xlabel('$\{\bf\it\}f$', 'Interpreter', 'Latex', 'fontsize', 30, 'Col
or', 'b');
ylabel('$\{\bf\it\}\mathcal{F}\{\g\}(2\pi
f)$', 'Interpreter', 'Latex', 'fontsize', 30, 'Color', 'b');
grid on

```

- Sintax Matlab untuk Gambar 2.6 (b), Gambar 2.8 (a), Gambar 2.10 (a) dan Gambar 2.12 (a).

```

clear all
clc
w = -10:0.001:10;

```

```

y = 2./(1+w.^2);
yi = smooth(y);
fig=figure;
fig.Position(3:4)=[390,205];
plot(w,yi,'color','b','Linewidth',2)
set(gca,'XTick',[-10:2:10]);
set(gca,'YTick',[0:0.2:2]);
set(gca,'FontSize',20);
xlabel('\boldi{\omega}$','Interpreter','Latex','fontsize',
30,'Color','b');
ylabel('\boldi{\mathcal{F}}\{g\}(\omega)$','Interpreter','La
tex','fontsize',30,'Color','b');
grid on

```

- **Sintax Matlab untuk Gambar 2.7 (b).**

```

clear all
clc
t = -5:0.001:5;
y = exp(-abs(4*t));
yi = smooth(y);
fig=figure;
fig.Position(3:4)=[390,205];
plot(t,yi,'color','b','Linewidth',2)
set(gca,'XTick',[-5:5]);
set(gca,'YTick',[0:0.1:1]);
set(gca,'FontSize',20);
xlabel('\boldi{t}$','Interpreter','Latex','fontsize',30,'Col
or','b');
ylabel('\boldi{g}(4t)$','Interpreter','Latex','fontsize',30,
'Color','b');
grid on

```

- **Sintax Matlab untuk Gambar 2.8 (b).**

```

clear all
clc
w = -10:0.001:10;
y = 8./(16+w.^2);
yi = smooth(y);
fig=figure;
fig.Position(3:4)=[390,205];
plot(w,yi,'color','b','Linewidth',2)
set(gca,'XTick',[-10:2:10]);
set(gca,'YTick',[0:0.2:2]);
set(gca,'FontSize',20);
xlabel('\boldi{\omega}$','Interpreter','Latex','fontsize',
30,'Color','b');
ylabel('\boldi{\mathcal{F}}\{g_4\}(\omega)$','Interpreter','
Latex','fontsize',30,'Color','b');
grid on

```

- **Sintax Matlab untuk Gambar 2.9 (b).**

```

clear all
clc
t = -5:0.001:10;
y = exp(-abs(t-4));
yi = smooth(y);
fig=figure;
fig.Position(3:4)=[390,205];

```

```

plot(t,yi,'color','b','LineWidth',2)
set(gca,'XTick',[-5:10]);
set(gca,'YTick',[0:0.1:1]);
set(gca,'FontSize',20);
xlabel('$\{\bf\it\}t$', 'Interpreter', 'Latex', 'fontsize', 30, 'Color', 'b');
ylabel('$\{\bf\it\}g(t-4)$', 'Interpreter', 'Latex', 'fontsize', 30, 'Color', 'b');
grid on

```

- **Sintax Matlab untuk Gambar 2.10 (b).**

```

clear all
clc
w = -10:0.001:10;
y = (2*exp(-4*i*w))./(1+w.^2);
yi = imag(y);
y_real = real(y);
fig=figure;
fig.Position(3:4)=[390,205];
plot(w,y_real,'color','b','LineWidth',2)
hold on
plot(w,yi,'color','r','LineWidth',2)
ylim([-2 2.2]);
set(gca,'XTick',[-10:2:10]);
set(gca,'YTick',[-2:0.2:2.3]);
set(gca,'FontSize',20);
xlabel('$\{\bf\it\}\omega$', 'Interpreter', 'Latex', 'fontsize', 30, 'Color', 'b');
ylabel('$\{\bf\it\}\mathcal{F}\{\tau_4\}(\omega)$', 'Interpreter', 'Latex', 'fontsize', 30, 'Color', 'b');
legend('Riil', 'Imajiner')
grid on

```

- **Sintax Matlab untuk Gambar 2.11 (b).**

```

clear all
clc
t = -10:0.001:10;
y = exp(2.*i.*t).*exp(-abs(t));
yi = imag(y);
y_real = real(y);
fig=figure;
fig.Position(3:4)=[390,205];
plot(t,y_real,'color','b','LineWidth',2)
hold on
plot(t,yi,'color','r','LineWidth',2)
ylim([-0.6 1.2]);
set(gca,'XTick',[-10:2:10]);
set(gca,'YTick',[-0.6:0.2:1.2]);
set(gca,'FontSize',20);
xlabel('$\{\bf\it\}t$', 'Interpreter', 'Latex', 'fontsize', 30, 'Color', 'b');
ylabel('$\{\bf\it\}\mathbf{M}_2g(t)$', 'Interpreter', 'Latex', 'fontSize', 30, 'Color', 'b');
legend('Riil', 'Imajiner')
grid on

```

- Sintax Matlab untuk Gambar 2.12 (b).

```
clear all
clc
w = -10:0.001:10;
y = 2./(5-4*w+w.^2);
yi = smooth(y);
fig=figure;
fig.Position(3:4)=[390,205];
plot(w,yi,'color','b','LineWidth',2)
set(gca,'XTick',[-10:2:10]);
set(gca,'YTick',[0:0.2:2]);
set(gca,'FontSize',20);
xlabel('\${\bf\it}\omega$', 'Interpreter','Latex','fontsize',
30,'Color','b');
ylabel('\${\bf\it}\mathcal{F}(\omega)g$', 'Interprete
r','Latex','fontsize',30,'Color','b');
grid on
```

- Sintax Matlab untuk Gambar 4.1 (a).

```
clear all
clc
t = -10:0.001:10;
y = exp(-1*(t-1).^2);
yi = smooth(y);
fig=figure;
fig.Position(3:4)=[390,205];
plot(t,yi,'color','b','LineWidth',2)
hold on;
fill([t, fliplr(t)], [zeros(size(t)), fliplr(y)], 'b',
'FaceAlpha', 0.3);
hold off;
xlabel('\${\bf\it}t$', 'Interpreter','Latex','fontsize',30,'Col
or','b');
ylabel('\${\bf\it}f(t)g$', 'Interpreter','Latex','fontsize',30,'
Color','b');
grid on
```

- Sintax Matlab untuk Gambar 4.1 (b).

```
clear all
clc
w = -10:0.001:10;
y = (sqrt(pi)*exp(((i*w-2).^2)/4)-1));
yi = imag(y);
y_real = real(y);
fig=figure;
fig.Position(3:4)=[390,205];
plot(w,y_real,'color','b','LineWidth',2)
plot(w, yi, 'color', 'r', 'LineWidth', 2);
hold on;
fill([w, fliplr(w)], [zeros(size(w)), fliplr(y_real)], 'b',
'FaceAlpha', 0.3);
fill([w, fliplr(w)], [zeros(size(w)), fliplr(yi)], 'r',
'FaceAlpha', 0.3);
hold off;
xlabel('\${\bf\it}\omega$', 'Interpreter','Latex','fontsize',
30,'Color','b');
```

```
ylabel('$\{\bf\it\}\mathcal{F}\{\f\}(\omega)$', 'Interpreter', 'La  
tex', 'fontsize', 30, 'Color', 'b');  
legend('Imajiner', 'Riil')  
grid on
```