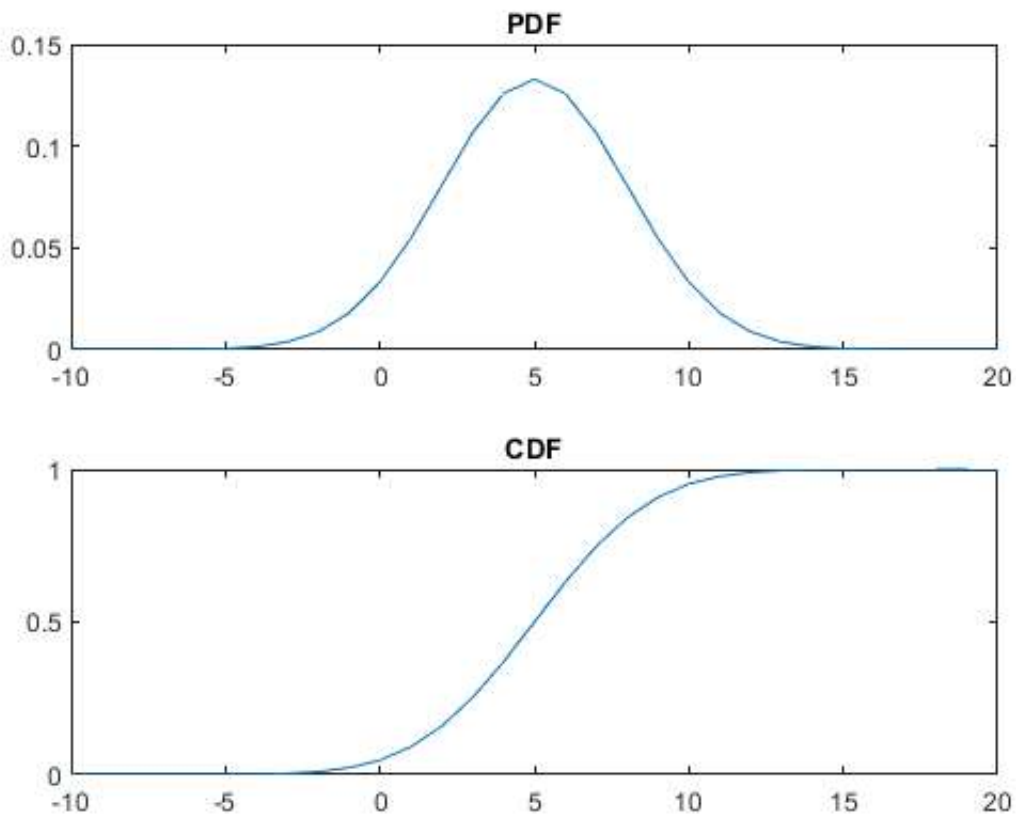


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Plot PDF & CDF

```
x = -10:20;  
pdfgausp = normpdf(x,5,3); %normal pdf (x,mean, std)  
x = -10:20;  
pdfgausc = normcdf(x,5,3); %normal cdf (x,mean, std)  
figure;  
subplot(2,1,1)  
  
plot(x,pdfgausp);  
title('PDF');  
  
subplot(2,1,2)  
  
plot(x,pdfgausc);hold on;  
title('CDF');
```



From CDF specify value for 50% 75% 90%

```
pd = makedist('Normal','mu',5,'sigma',3);
x = -10:20;
cdf_normal = normcdf(x,5,3,.5,.5);
disp('CDF values [50%,75%,90%] = ')
cdfper = icdf(pd,[0.5, 0.75, 0.9])
```

CDF values [50%,75%,90%] =

cdfper =

5.0000 7.0235 8.8447

3.6.1

```
%For a mechanically scanned antenna having an azimuth beamwidth of 2 degrees and an elevation
% beamwidth of 3 degrees, how many beam positions are required to search a volume defined by
% a 90 degree azimuth sector and a 6 degree elevation sector?

ab = 2; %azimuth beamwidth of 2 degrees
eb = 3; %elevation beamwidth of 3 degrees
das = 90; %90 degree azimuth sector
es = 6; %6 degree elevation sector
disp('Number of Beam Positions = ')
%How many beam positions are required
NumofBeamPositions = ( das * (es) ) / ((ab)*(eb))
```

Number of Beam Positions =

NumofBeamPositions =

90

3.6.9

```
%Consider a weapon locating radar having a beamwidth of 2 degrees in both azimuth and
% elevation that is set up to search a volume defined by a 75 degree sector in azimuth and a
% 4 degree sector in elevation. If the radar also has a dwell time of 2.4 msec and a plan to
% 5 dwells at each beam location, what is the total scan time?

bw = 2; %beamwidth 2 degrees
as = 75; %75 degree sector in azimuth
es = 4; %4 degree sector in elevation
dwt = 2.4; %dwell time 2.4msec
dwel = 5; %5 dwells at each beam location
% What is the total scan time?

azi = (75)/(2);
```

```
elv = 4/2;  
tst = (5*2.4)*(azi*elv);%total scan time  
disp('Total Scan Time = ')  
tst
```

Total Scan Time =

tst =

900