

# Normal Probability Distribution

## Calculator- Solutions

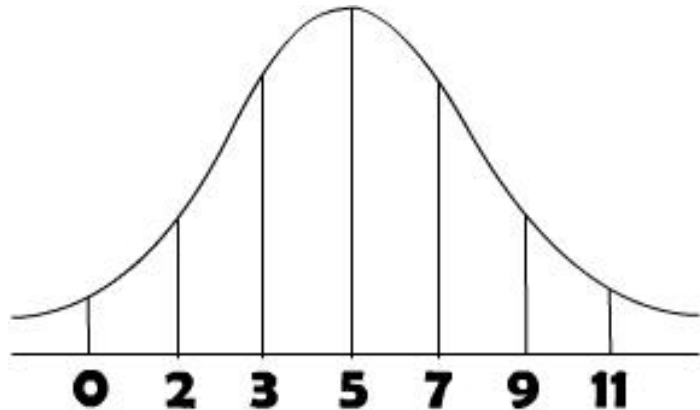
Mean = 5

Standard Deviation = 2

Sketch the normal curve.

```

WINDOW
Xmin=-1
Xmax=11
Xscl=2
Ymin=-.03
Ymax=.25
Yscl=0
Xres=1
    
```



**TI-83 Plus/84: normalcdf(lower bound, upper bound, mean, standard deviation)**

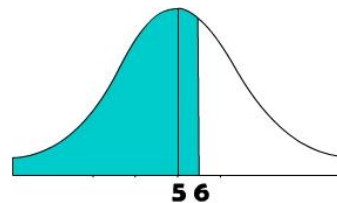
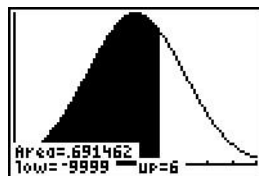
1) Find  $P(x < 6)$ . Round to two decimal places. Sketch the curve with shaded region.

$normalcdf(-9999, 6, 5, 2)$

$P(x < 6) = .691462 \approx .69 = 69\%$

```

normalcdf(-9999,
6, 5, 2)
.6914624678
    
```



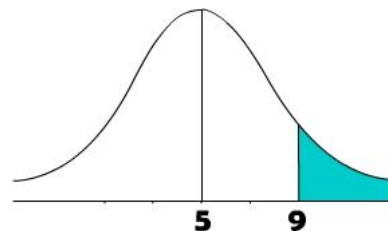
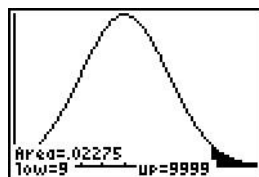
2) Find  $P(x > 9)$ . Round to two decimal places. Sketch the curve with shaded region.

$normalcdf(9, 9999, 5, 2)$

$P(x > 9) = .022750062 \approx .02 = 2\%$

```

normalcdf(9, 9999
, 5, 2)
.022750062
    
```



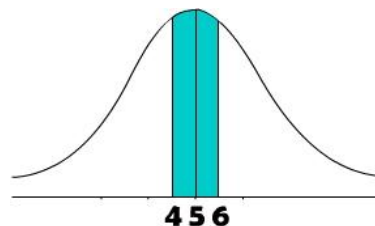
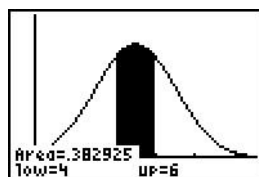
3) Find  $P(4 < x < 6)$ . Round to two decimal places. Sketch the curve with shaded region.

$normalcdf(4, 6, 5, 2)$

$P(4 < x < 6) = .6687124058 \approx .67 = 67\%$

```

normalcdf(4, 6, 5,
2)
.3829249356
    
```



4) Find  $P(3 < x < 7)$ . Round to two decimal places. Sketch the curve and shade the region.

$normalcdf(3, 7, 5, 2)$

$P(3 < x < 7) = .6826894809 \approx .68 = 68\%$

```

normalcdf(3, 7, 5,
2)
.6826894809
    
```

