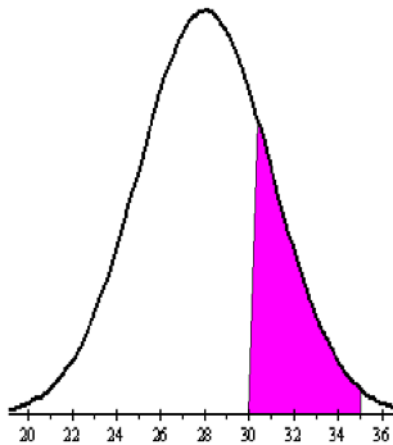
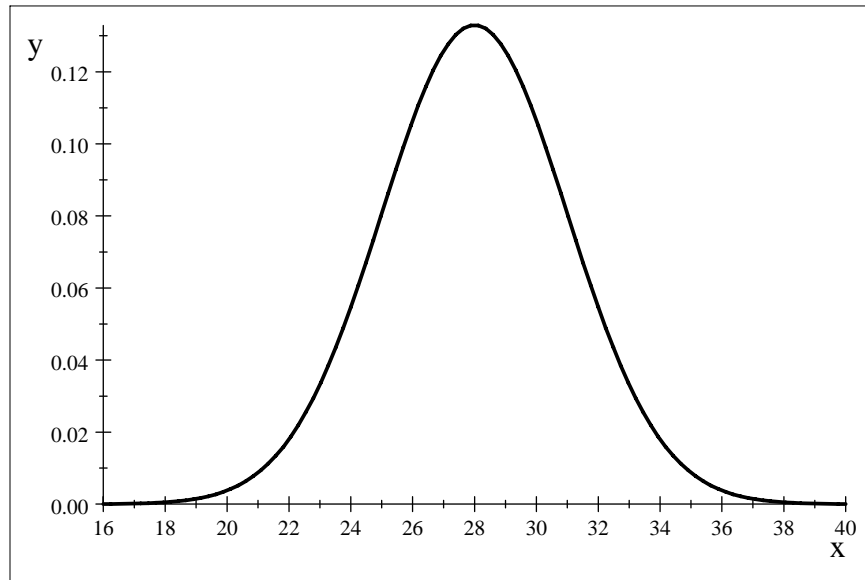


For a normal distribution with mean 28 units and standard deviation 3 units, to find the area under THIS normal curve from $x=30$ to $x=35$

$$f(x) = \frac{1}{3\sqrt{2\pi}} e^{-\left(\frac{(x-28)^2}{2 \times 3^2}\right)}$$

$f(x)$

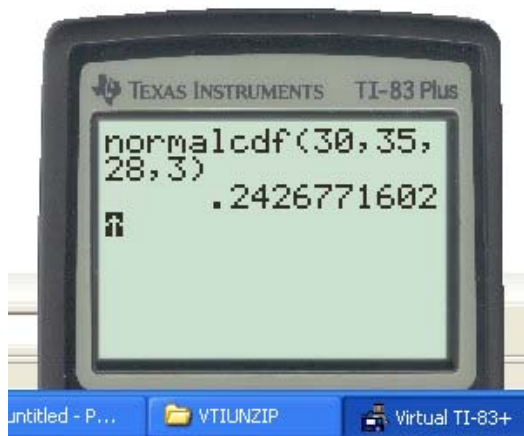
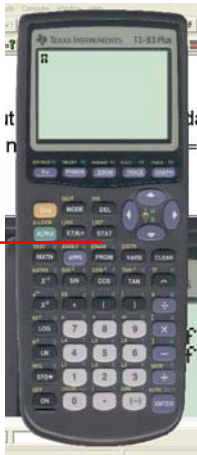


$$\int_{30}^{35} \frac{1}{3\sqrt{2\pi}} e^{-\left(\frac{(x-28)^2}{2 \times 3^2}\right)} dx = 0.2426772089$$

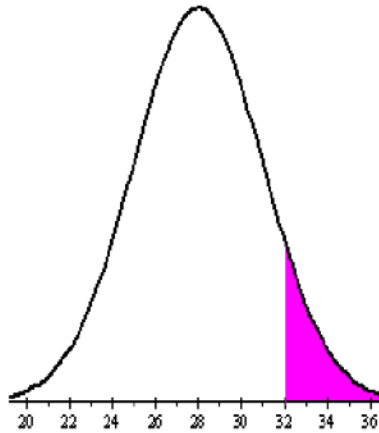
Normal Distribution, mean 28, standard deviation 3,

area under the normal curve from $x=30$ to $x=35$

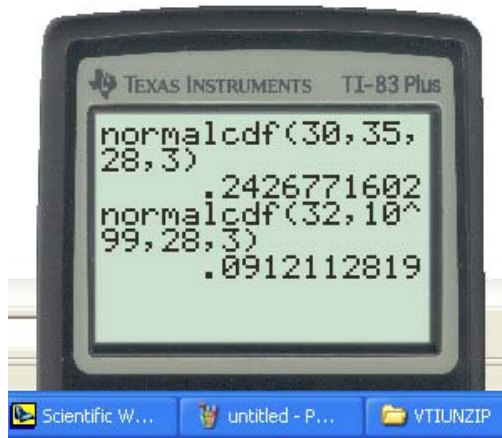
2ndVARS gives
DISTR



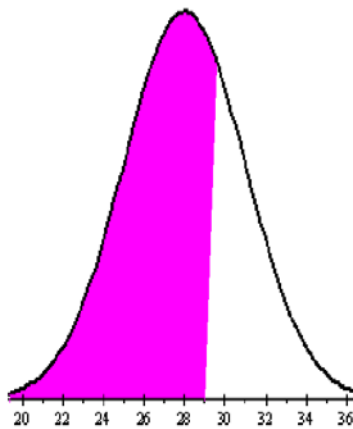
Normal Distribution, mean 28, standard deviation 3,
area under the normal curve to the right of $x=32$



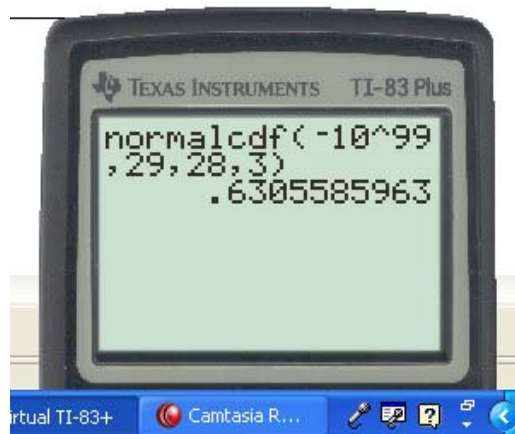
$$\int_{32}^{\infty} \frac{1}{3\sqrt{2\pi}} e^{-((x-28)^2/(2 \times 3^2))} dx = 9.121121973 \times 10^{-2} \approx 0.0912$$



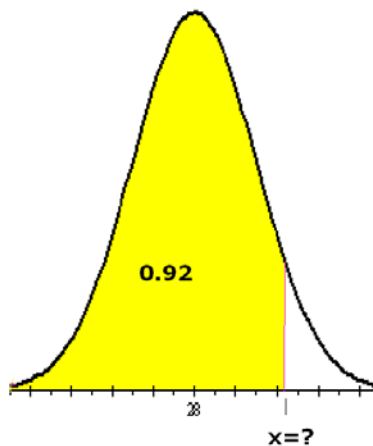
Normal Distribution, mean 28, standard deviation 3,
area under THIS normal curve to the left of x=29



$$\int_{-\infty}^{29} \frac{1}{3\sqrt{2\pi}} e^{-((x-28)^2/(2 \times 3^2))} dx = 0.6305586598$$



For a normal distribution (x) with mean 28 and standard deviation 3, to find the 92nd percentile, that is the value of x such that the area under THIS normal curve to the left of x is 0.92



$$\int_{-\infty}^x \frac{1}{3\sqrt{2\pi}} e^{-((x-28)^2/(2 \times 3^2))} dx = .92, \text{ Solution is: } \{[x = 32.21521468]\}$$

