Chapter 14 / **Example 13**
Calculating with the inverse normal function

Given that $Z \sim N(0,1)$, use your GDC to find a when:

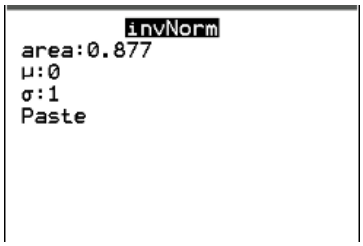
a $P(Z < a) = 0.877$ **b** $P(Z > a) = 0.2$

c $P(Z > a) = 0.55$ **d** $P(-a < Z < a) = 0.42$

Press 2nd vars ([distr]) 3:invNorm(

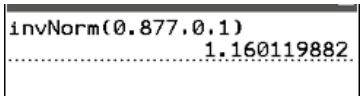
Enter the Area 0.877

Navigate to Paste and press enter.



Press enter.

$a = 1.16$

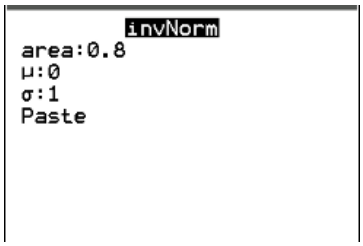


If $P(Z > a) = 0.2$ then $P(Z < a) = 1 - 0.2 = 0.8$

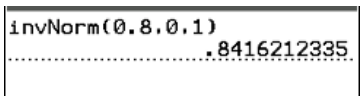
Press 2nd vars ([distr]) 3:invNorm(

Enter the Area 0.8

Navigate to Paste and press enter.



$a = 0.842$

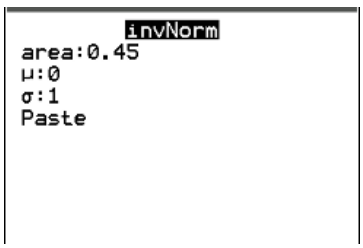


If $P(Z > a) = 0.55$ then $P(Z < a) = 1 - 0.55 = 0.45$

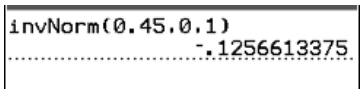
Press 2nd vars ([distr]) 3:invNorm(

Enter the Area 0.45

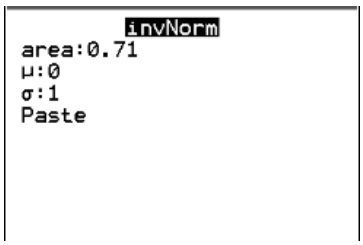
Navigate to Paste and press enter.



$a = -0.126$



Chapter 14 / **Example 13**
Calculating with the inverse normal function

If $P(-a < Z < a) = 0.42$ then $P(Z < a) = 1 - \frac{1}{2}(1 - 0.42) = 0.71$ Press 2nd vars ([distr]) 3:invNorm(Enter the Area 0.71 Navigate to Paste and press enter.	
$a = 0.553$