Assume $Z$ is a standard normal random variable, and find the following.

1. $P(0 < Z < 1.74)$
2. $P(Z \leq 0.76)$
3. $P(-0.9 < Z \leq 0)$
4. $P(-2.3 < Z)$
5. $P(Z \geq 1.46)$
6. $P(Z \leq -1.59)$
7. $P(-1.27 \leq Z \leq 1.95)$
8. $P(0.84 < Z < 2.01)$
9. $P(-1.34 < Z < -0.67)$
10. $P(Z = 1.33)$
11. A number $c$ such that $P(Z > c) = 0.84$
12. A number $c$ such that $P(Z < c) = 0.45$
13. A number $c$ such that $P(Z > c) = 0.25$
14. Numbers $a$ and $b$ such that $P(a < Z < b) = 0.8$
15. Find $z_{0.1}$, $z_{0.05}$, $z_{0.025}$, $z_{0.01}$, and $z_{0.005}$.
16. Find $z_\alpha$, when $\alpha = 0.1$.
17. Find $z_{\alpha/2}$, when $\alpha = 0.1$. 
Answers

1. 0.4591
2. 0.7764
3. 0.3159
4. 0.9893
5. 0.0721
6. 0.0559
7. 0.8724
8. 0.1783
9. 0.1613
10. 0. Again, Z is a normal random variable, so it’s continuous, and the probability that it’s equal to any specific number is 0.
11. −0.99
12. −0.13
13. 0.67
14. \( a = -1.28 \) and \( b = 1.28 \)
15. \( z_{0.1} = 1.28, \ z_{0.05} = 1.645, \ z_{0.025} = 1.96, \ z_{0.01} = 2.33, \) and \( z_{0.005} = 2.575. \)
16. 1.28
17. 1.645