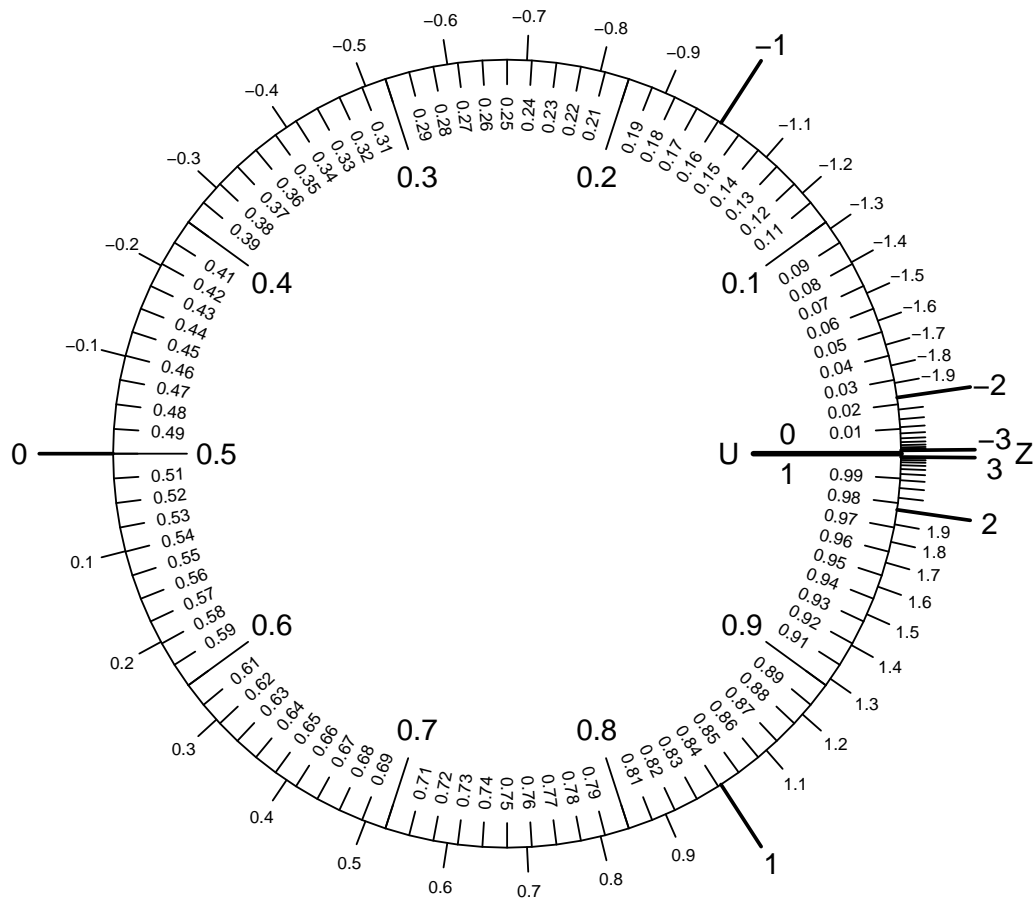


1. **Problem:**

The spinner below has two distributions. The outer distribution ( $Z$ ) is the standard normal distribution. The inner distribution ( $U$ ) is the standard uniform distribution, which also corresponds to the percentile. To answer the questions below, assume the spinner is equally likely to land in any direction.



- Evaluate  $P(-0.5 < Z < 0)$ .
- Evaluate  $P(Z < 1.6)$ .
- Determine  $z$  such that  $P(Z > z) = 0.71$ .
- Determine  $z$  such that  $P(Z < z) = 0.68$ .
- Evaluate  $P(Z > -0.1)$ .

**Solution:**

$$(a) P(-0.5 < Z < 0) = 0.191$$

$$(b) P(Z < 1.6) = 0.945$$

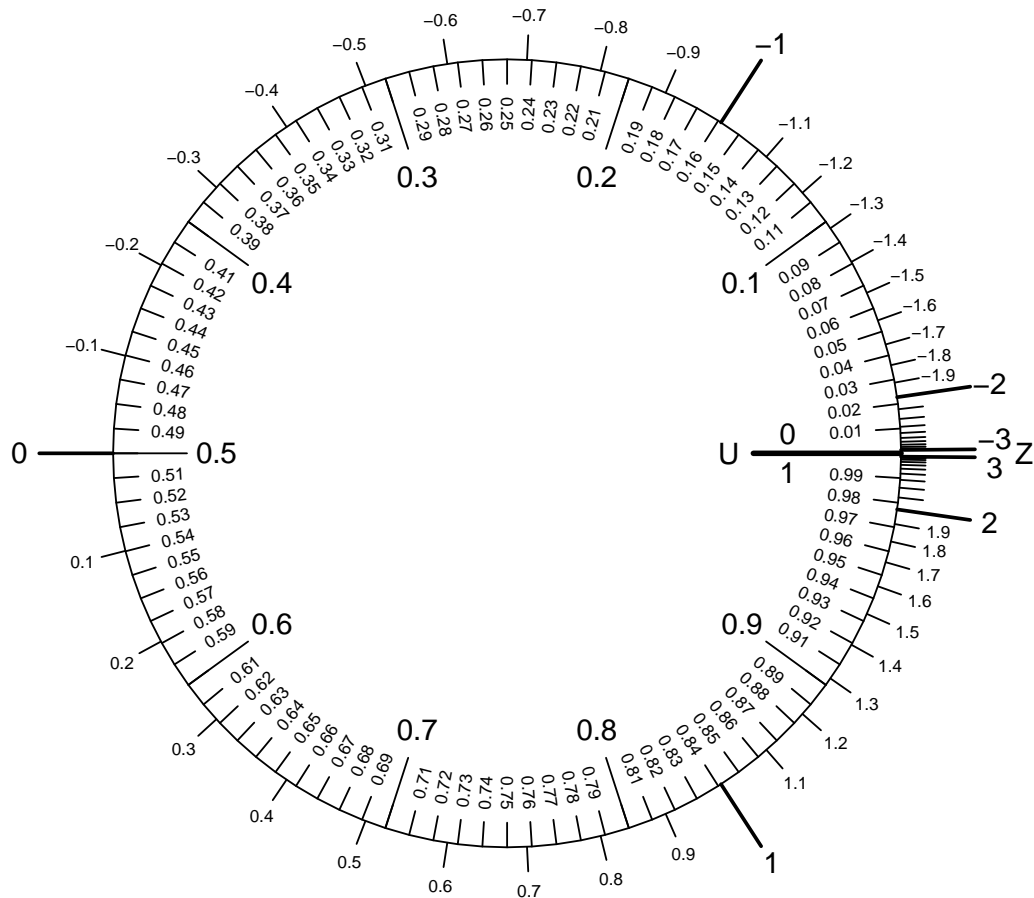
$$(c) z = -0.55$$

$$(d) z = 0.47$$

$$(e) P(Z > -0.1) = 0.54$$

**2. Problem:**

The spinner below has two distributions. The outer distribution ( $Z$ ) is the standard normal distribution. The inner distribution ( $U$ ) is the standard uniform distribution, which also corresponds to the percentile. To answer the questions below, assume the spinner is equally likely to land in any direction.



- Evaluate  $P(Z > -1.1)$ .
- Determine  $z$  such that  $P(Z > z) = 0.74$ .
- Evaluate  $P(-0.3 < Z < 0.8)$ .
- Determine  $z$  such that  $P(Z < z) = 0.92$ .
- Evaluate  $P(Z < -1.2)$ .

**Solution:**

(a)  $P(Z > -1.1) =$

(b)  $z =$

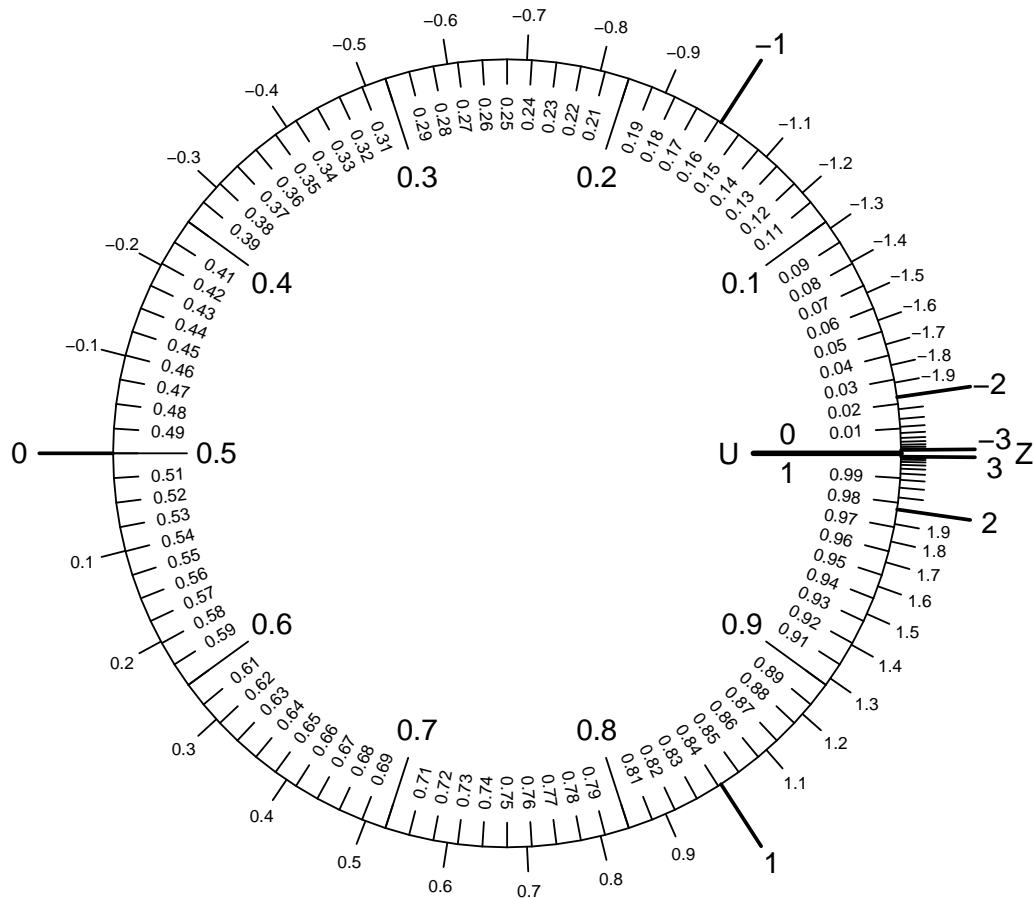
(c)  $P(-0.3 < Z < 0.8) =$

(d)  $z =$

(e)  $P(Z < -1.2) =$

**3. Problem:**

The spinner below has two distributions. The outer distribution ( $Z$ ) is the standard normal distribution. The inner distribution ( $U$ ) is the standard uniform distribution, which also corresponds to the percentile. To answer the questions below, assume the spinner is equally likely to land in any direction.



- Determine  $z$  such that  $P(Z > z) = 0.29$ .
- Determine  $z$  such that  $P(Z < z) = 0.11$ .
- Evaluate  $P(Z > -1.1)$ .
- Evaluate  $P(Z < 1.1)$ .
- Evaluate  $P(-0.5 < Z < -0.4)$ .

**Solution:**

(a)  $z = 0.55$

(b)  $z = -1.23$

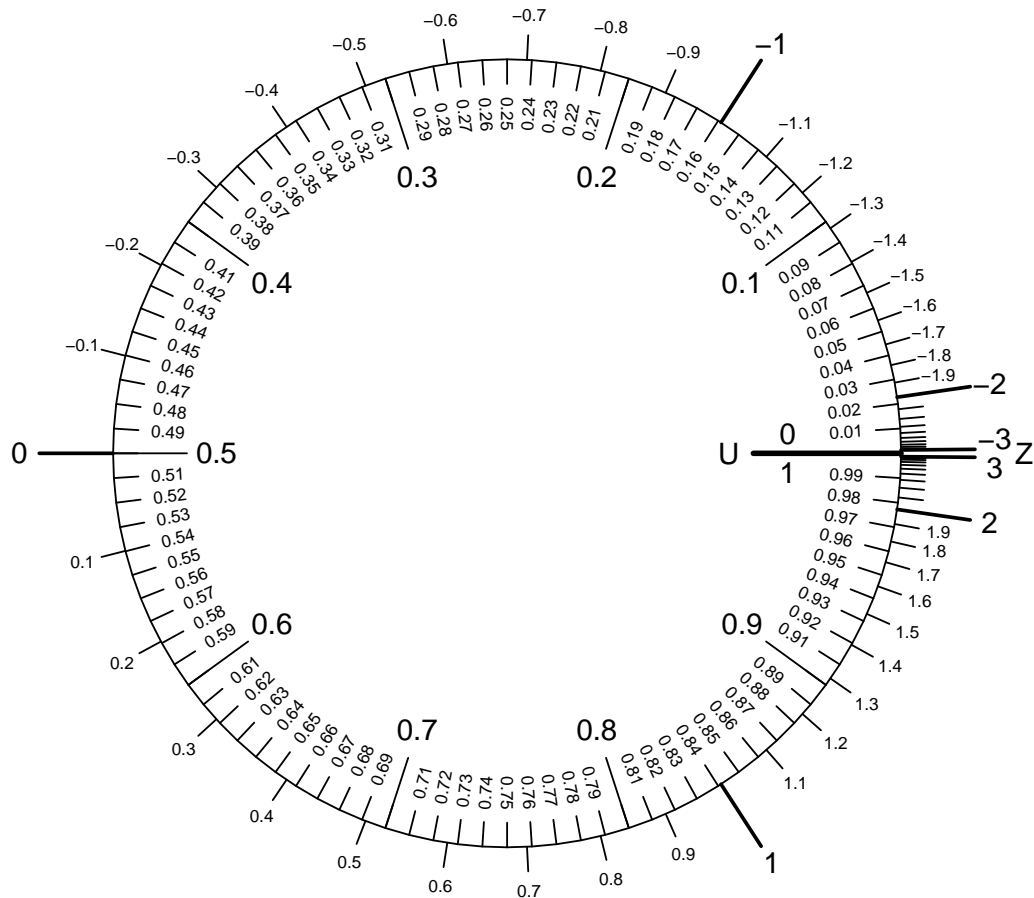
(c)  $P(Z > -1.1) = 0.864$

(d)  $P(Z < 1.1) = 0.864$

(e)  $P(-0.5 < Z < -0.4) = 0.036$

**4. Problem:**

The spinner below has two distributions. The outer distribution ( $Z$ ) is the standard normal distribution. The inner distribution ( $U$ ) is the standard uniform distribution, which also corresponds to the percentile. To answer the questions below, assume the spinner is equally likely to land in any direction.



- Evaluate  $P(Z < 0)$ .
- Evaluate  $P(-0.8 < Z < 1.1)$ .
- Evaluate  $P(Z > -0.4)$ .
- Determine  $z$  such that  $P(Z > z) = 0.52$ .
- Determine  $z$  such that  $P(Z < z) = 0.91$ .

**Solution:**

(a)  $P(Z < 0) =$

(b)  $P(-0.8 < Z < 1.1) =$

(c)  $P(Z > -0.4) =$

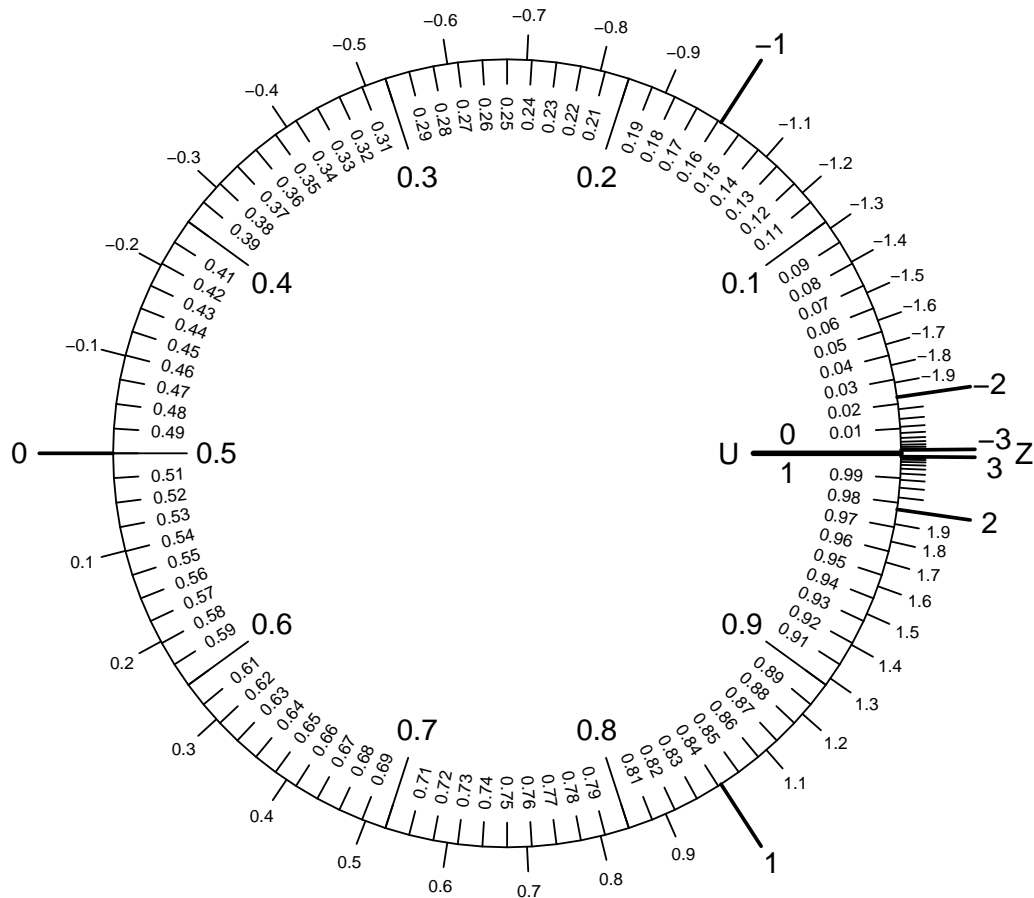
(d)  $z =$

(e)  $z =$



**5. Problem:**

The spinner below has two distributions. The outer distribution ( $Z$ ) is the standard normal distribution. The inner distribution ( $U$ ) is the standard uniform distribution, which also corresponds to the percentile. To answer the questions below, assume the spinner is equally likely to land in any direction.



- Determine  $z$  such that  $P(Z < z) = 0.78$ .
- Evaluate  $P(Z < 0.7)$ .
- Evaluate  $P(-1.1 < Z < -0.7)$ .
- Evaluate  $P(Z > -0.6)$ .
- Determine  $z$  such that  $P(Z > z) = 0.29$ .

**Solution:**

(a)  $z = 0.77$

(b)  $P(Z < 0.7) = 0.758$

(c)  $P(-1.1 < Z < -0.7) = 0.106$

(d)  $P(Z > -0.6) = 0.726$

(e)  $z = 0.55$