

# Quiz Review

2025-01-22

**Exercise 1.1.** Colleges and universities are requiring an increasing amount of information about applicants before making acceptance and financial aid decisions. Select all the variables below which are quantitative.

- ☐ High school GPA
- ☐ Country of citizenship
- ☐ Applicant's score on the SAT or ACT
- ☐ Gender of applicant
- ☐ Parents' income
- ☐ Age of applicant

**Exercise 1.2.** Use R to calculate the mean, variance, standard deviation of the following data table. The table below gives the number of shafts buried at each of 13 recently discovered gravesites.

```
1, 2, 3, 1, 5, 6, 2, 4, 1, 2, 4, 2, 9
```

**Hint:** Please creat a vector in R with the values above, use `mean()`, `var()`, `sd()` to find the mean, variance, and standard deviation, respectively.

**Exercise 1.3.** Given that the random variable  $z$  has the standard normal probability distribution, write the R code is correct in finding the following probability  $\Pr(z \geq -1)$ .

**Exercise 1.4.** Given that the random variable  $z$  has the standard normal probability distribution, write the R code in finding the following probability  $\Pr(-1.96 \leq z \leq 1.96)$ .

**Exercise 1.5.** Given that the random variable  $y$  has a normal probability distribution with mean 100 and variance 64, write the R code in finding the following probability  $\Pr(y \leq 92)$ .

**Exercise 1.6.** Given that the random variable  $y$  has a normal probability distribution with mean 100 and variance 64, write the R code in finding the following probability  $\Pr(76 \leq y \leq 124)$ .