Task card 1 Hypothesis Testing: z-Test Statist...

A company says its light bulbs last a mean of 1200 hours. A researcher suspects the true value is higher. Which hypotheses should be tested? (A) H0: μ > 1200, Ha: μ = 1200 (B) H0: μ = 1200, Ha: μ < 1200 (C) H0: μ = 1200, Ha: μ > 1200 (D) H0: μ = 1200, Ha: μ ≠ 1200

Task card 2 Hypothesis Testing: z-Test Statist...

A hypothesis test gives a P-value of 0.131. At α = 0.05, should you reject H0 or fail to reject H0? (Answer reject or fail to reject.)

Task card 3 Hypothesis Testing: z-Test Statist...

A bakery says its loaves weigh a mean of 680 grams. To test H0: μ = 680 against Ha: μ < 680, a random sample of 144 has a sample mean of 678.2 grams. The population standard deviation is σ = 12 grams. Find the z test statistic.

Task card 4 Hypothesis Testing: z-Test Statist...

Find the critical value z* for a two-tailed z-test at α = 0.05 (give the positive one).

Task card 5 Hypothesis Testing: z-Test Statist...

A cereal maker says its boxes hold a mean of 500 grams. To test H0: μ = 500 against Ha: μ ≠ 500, a random sample of 144 has a sample mean of 505 grams. The population standard deviation is σ = 60 grams. Find the z test statistic.

Task card 6 Hypothesis Testing: z-Test Statist...

A hypothesis test gives a P-value of 0.156. At α = 0.05, should you reject H0 or fail to reject H0? (Answer reject or fail to reject.)

Task card 7 Hypothesis Testing: z-Test Statist...

A hypothesis test gives a P-value of 0.132. At $\alpha = 0.01$, should you reject H0 or fail to reject H0? (Answer reject or fail to reject.)

Task card 8 Hypothesis Testing: z-Test Statist...

A battery maker says its batteries last a mean of 40 hours. To test H0: $\mu = 40$ against Ha: $\mu \neq 40$, a random sample of 25 has a sample mean of 45.6 hours. The population standard deviation is $\sigma = 10$ hours. Find the z test statistic.

Task card 9 Hypothesis Testing: z-Test Statist...

A delivery service says its mean delivery time is 30 minutes. A researcher suspects the true value is higher. Which hypotheses should be tested? (A) H0: $\mu = 30$, Ha: $\mu < 30$ (B) H0: $\mu > 30$, Ha: $\mu = 30$ (C) H0: $\mu = 30$, Ha: $\mu > 30$ (D) H0: $\mu = 30$, Ha: $\mu \neq 30$

Task card 10 Hypothesis Testing: z-Test Statist...

A company says its light bulbs last a mean of 1200 hours. To test H0: $\mu = 1200$ against Ha: $\mu < 1200$, a random sample of 100 has a sample mean of 1199 hours. The population standard deviation is $\sigma = 5$ hours. Find the z test statistic.

Task card 11 Hypothesis Testing: z-Test Statist...

Find the critical value z^* for a left-tailed z-test at $\alpha = 0.1$.

Task card 12 Hypothesis Testing: z-Test Statist...

A right-tailed z-test at $\alpha = 0.05$ gives $z = 0.87$. Should you reject H0 or fail to reject H0? (Answer reject or fail to reject.)

Task card 13 Hypothesis Testing: z-Test Statist...

A hypothesis test gives a P-value of 0.167. At $\alpha = 0.1$, should you reject H0 or fail to reject H0? (Answer reject or fail to reject.)

Task card 14 Hypothesis Testing: z-Test Statist...

A company says its light bulbs last a mean of 1200 hours. A researcher wants to know whether the true value is different. Which hypotheses should be tested? (A) $H0: \mu = 1200$, $Ha: \mu \neq 1200$ (B) $H0: \mu \neq 1200$, $Ha: \mu = 1200$ (C) $H0: \mu = 1200$, $Ha: \mu < 1200$ (D) $H0: \mu = 1200$, $Ha: \mu > 1200$

Task card 15 Hypothesis Testing: z-Test Statist...

A school says its students sleep a mean of 8 hours a night. A researcher suspects the true value is higher. Which hypotheses should be tested? (A) $H0: \mu = 8$, $Ha: \mu > 8$ (B) $H0: \mu > 8$, $Ha: \mu = 8$ (C) $H0: \mu = 8$, $Ha: \mu \neq 8$ (D) $H0: \mu = 8$, $Ha: \mu < 8$

Task card 16 Hypothesis Testing: z-Test Statist...

A cereal maker says its boxes hold a mean of 500 grams. To test $H0: \mu = 500$ against $Ha: \mu < 500$, a random sample of 64 has a sample mean of 497.4 grams. The population standard deviation is $\sigma = 8$ grams. Find the z test statistic.

Task card 17 Hypothesis Testing: z-Test Statist...

Find the critical value z^* for a two-tailed z-test at $\alpha = 0.1$ (give the positive one).

Task card 18 Hypothesis Testing: z-Test Statist...

A left-tailed z-test at $\alpha = 0.01$ gives $z = -1.46$. Should you reject H0 or fail to reject H0? (Answer reject or fail to reject.)

Task card 19 Hypothesis Testing: z-Test Statist...

A hypothesis test gives a P-value of 0.082. At α = 0.1, should you reject H0 or fail to reject H0? (Answer reject or fail to reject.)

Task card 20 Hypothesis Testing: z-Test Statist...

A school says its students sleep a mean of 8 hours a night. To test H0: μ = 8 against Ha: μ ≠ 8, a random sample of 36 has a sample mean of 6.6 hours. The population standard deviation is σ = 3 hours. Find the z test statistic.

Task card 21 Hypothesis Testing: z-Test Statist...

A two-tailed z-test at α = 0.1 gives z = -2.95. Should you reject H0 or fail to reject H0? (Answer reject or fail to reject.)

Task card 22 Hypothesis Testing: z-Test Statist...

A bakery says its loaves weigh a mean of 680 grams. A researcher suspects the true value is higher. Which hypotheses should be tested? (A) H0: μ > 680, Ha: μ = 680 (B) H0: μ = 680, Ha: μ ≠ 680 (C) H0: μ = 680, Ha: μ < 680 (D) H0: μ = 680, Ha: μ > 680

Task card 23 Hypothesis Testing: z-Test Statist...

A hypothesis test gives a P-value of 0.145. At α = 0.1, should you reject H0 or fail to reject H0? (Answer reject or fail to reject.)

Task card 24 Hypothesis Testing: z-Test Statist...

A school says its students sleep a mean of 8 hours a night. To test H0: μ = 8 against Ha: μ ≠ 8, a random sample of 25 has a sample mean of 7.1 hours. The population standard deviation is σ = 2.5 hours. Find the z test statistic.

Hypothesis Testing: z-Test Statistics Task Cards

Recording sheet · Grade 12 · Solve each problem. For lettered choices, write the letter. Give z to 2 decimal places, and answer decisions with "reject" or "fail to reject" (H0).

Scan to check your answers

Name: _____ Date: _____

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24

Hypothesis Testing: z-Test Statistics Task Cards: Answer Key

Grade 12 · Easy

The answers online

1. C	**2.** fail to reject	**3.** -1.8
4. 1.96	**5.** 1	**6.** fail to reject
7. fail to reject	**8.** 2.8	**9.** C
10. -2	**11.** -1.282	**12.** fail to reject
13. fail to reject	**14.** A	**15.** A
16. -2.6	**17.** 1.645	**18.** fail to reject
19. reject	**20.** -2.8	**21.** reject
22. D	**23.** fail to reject	**24.** -1.8