

Use the following scenario to answer the following questions

Are physically fit people less likely to die of cancer?

Suppose an article in a sports medicine journal reported results of a study that followed 29,770 men aged 30 to 86 for 10 years.

The most physically fit men had a 58% lower risk of death from cancer than the least fit group.

1.

Identify the population of interest. Choose the correct answer below.

- A. The population of interest is all men who die of cancer.
- B. The population of interest is all men who exercise.
- C. The population of interest is all men.
- D. The population of interest is the 29,770 men aged 30 to 86.

2.

Identify the sample. Choose the correct answer below.

- A. The sample is all men who exercise.
- B. The sample is the 29,770 men aged 30 to 86.
- C. The sample is all men.
- D. The sample is all men who die of cancer.

Use the following information to answer the following questions

The Ashby horse race has been run every year since 1870 in Ashby, Massachusetts. The data for the first few and a few recent races follow.

Date	Winner	Margin (lengths)	Jockey	Winner's Payoff (\$)	Duration (min:sec)	Track Condition
May 17, 1870	Blacky	2	William	2850	2:37.00	Fast
May 19, 1871	Warrior	2	James	3900	2:37.75	Dusty
.....						
May 3, 2005	Lady	4 3/4	Ben	800,000	2:01.26	Dusty
May 8, 2006	Euler	2 3/4	Bruno	810,000	1:59.97	Slow

3.

The winner's payoffs is an example of what type(s) of data

Mark as many data types that apply

- A Qualitative
- B Quantitative
- C Discrete
- D Continuous

4.

The duration of the race is an example of what type(s) of data

Mark as many data types that apply

- A Qualitative
- B Quantitative
- C Discrete
- D Continuous

5.

The names of the winning jockeys is an example of what type(s) of data

Mark as many data types that apply

- A Qualitative
- B Quantitative
- C Discrete
- D Continuous

6. Explain the difference between a parameter and a statistics

Use the following information to answer the following questions

In 1991, a magazine collected data and published an article evaluating washing machines. It listed 43 models, giving the brand, cost(dollars), size (cu. ft.), type, estimated annual energy cost (dollars), an overall rating (good, excellent, etc.), and repair history for that brand (percentage requiring repairs over the past 5 years)

7. The size of the washing machines is an example of what type(s) of data

Mark as many data types that apply

- A Qualitative
- B Quantitative
- C Discrete
- D Continuous

8. The overall rating of the machines is an example of what type(s) of data

Mark as many data types that apply

- A Qualitative
- B Quantitative
- C Discrete
- D Continuous

9. The estimated annual energy cost is an example of what type(s) of data

Mark as many data types that apply

- A Qualitative
- B Quantitative
- C Discrete
- D Continuous

10. Money and time are sometimes confusing things to classify as discrete or continuous, so carefully answer the following:

10 a) Why is money in paper and coin form discrete information (despite the use of the decimal system)? Use less than 50 words to explain

10b) Give an example the use of time that can be considered discrete _____

10c) Give an example of the use of time that must be continuous _____

11. State whether the data described below are discrete or continuous, and explain why.

The capacities of different hotels

Choose the correct answer below.

- A. The data are continuous because the data can only take on specific values.
- B. The data are continuous because the data can take on any value in an interval.
- C. The data are discrete because the data can only take on specific values.
- D. The data are discrete because the data can take on any value in an interval.

12. State whether the data described below are discrete or continuous, and explain why.

The lengths of carrots produced by a farm

Choose the correct answer below.

- A. The data are discrete because the data can only take on specific values.
- B. The data are discrete because the data can take on any value in an interval.
- C. The data are continuous because the data can take on any value in an interval.
- D. The data are continuous because the data can only take on specific values.

13A.

For the data described below, identify the level of measurement as nominal, ordinal, interval, or ratio.
A music critic's review scale (must listen, good, fair, bad, horrible)

Choose the correct answer below.

- ordinal
- ratio
- interval
- nominal

13B. Explain why you made that data classification BE SPECIFIC

15A

For the data described below, identify the level of measurement as nominal, ordinal, interval, or ratio.
The average temperatures (in degrees Celsius) of different locations

Choose the correct answer below.

- ratio
- interval
- ordinal
- nominal

15B. Explain why you made that data classification BE SPECIFIC

14A.

For the data described below, identify the level of measurement as nominal, ordinal, interval, or ratio.
The distances (in miles) of different movie theaters from a person's house

Choose the correct answer below.

- ordinal
- ratio
- interval
- nominal

14B. Explain why you made that data classification BE SPECIFIC

16. Percentages Basics

16A. Find 15.64% of 249 (round answer to four decimal places of accuracy)

16B. Determine the percentage of people that saw the movie, "Straight Out of Compton", on opening weekend in a class of 46 people if 12 responded that they saw the movie (round to nearest tenth of a percent)

16C. 82.5% of what number is 165? (round answer to four decimal places of accuracy)

17

Last year's budget for the legislative branch of a certain Government was \$4900 million, and this year it is \$5312 million. Consider last year's budget of \$4900 million to be the reference value.

17A
What was the absolute change in the budget from last year to this year?

17B
What is the relative change from last year to this year?

17C
Proposal from the House
If next year's budget is estimated to be \$5202 million, then what is the percent decrease from this year's budget of \$5312 million?

17D
Proposal from the Senate
If next year's budget is 3% less than this year's budget of \$5312, then determine the budget for next year?

_____ million

_____ %
(round to nearest tenth of a percent)

_____ %
(round to nearest tenth of a percent)

_____ million
(round to nearest tenth of a million)

18

A study was collected of pleas made by 1035 criminals. Among those criminals, 957 pled guilty, and 395 of them were sentenced to prison. Among the 78 other criminals, who pled not guilty, 51 were sent to prison

18A
What percentage of criminals pled guilty?

18B
What percentage of the criminals were sent to prison?

18C
Among those who pled guilty, what is the percentage who were sent to prison?

18D
Among those who pled NOT guilty, what is the percentage who were sent to prison?

_____ %
(round to nearest tenth of a percent)

_____ %
(round to nearest tenth of a percent)

_____ %
(round to nearest tenth of a percent)

_____ %
(round to nearest tenth of a percent)

19.
Define census (Use less than 50 words)

20.
Explain the difference between descriptive statistics and inferential statistics

Use the following scenario to answer the following questions

Are physically fit people less likely to die of cancer?

Suppose an article in a sports medicine journal reported results of a study that followed 29,770 men aged 30 to 86 for 10 years.

The most physically fit men had a 58% lower risk of death from cancer than the least fit group.

1. Identify the sample. Choose the correct answer below.

- A. The sample is all men who exercise.
- B. The sample is the 29,770 men aged 30 to 86.
- C. The sample is all men.
- D. The sample is all men who die of cancer.

2. Identify the population of interest. Choose the correct answer below.

- A. The population of interest is all men who die of cancer.
- B. The population of interest is all men who exercise.
- C. The population of interest is all men.
- D. The population of interest is the 29,770 men aged 30 to 86.

Use the following information to answer the following questions

The Ashby horse race has been run every year since 1870 in Ashby, Massachusetts. The data for the first few and a few recent races follow.

Date	Winner	Margin (lengths)	Jockey	Winner's Payoff (\$)	Duration (min:sec)	Track Condition
May 17, 1870	Blacky	2	William	2850	2:37.00	Fast
May 19, 1871	Warrior	2	James	3900	2:37.75	Dusty
.....						
May 3, 2005	Lady	4 3/4	Ben	800,000	2:01.26	Dusty
May 8, 2006	Euler	2 3/4	Bruno	810,000	1:59.97	Slow

3. The duration of the race is an example of what type(s) of data

- A Qualitative
- B Quantitative
- C Discrete
- D Continuous

4. The names of the winning jockeys is an example of what type(s) of data
Mark as many data types that apply

- A Qualitative
- B Quantitative
- C Discrete
- D Continuous

5. The winner's payoffs is an example of what type(s) of data
Mark as many data types that apply

- A Qualitative
- B Quantitative
- C Discrete
- D Continuous

6. Explain the difference between a parameter and a statistics

Use the following information to answer the following questions

In 1991, a magazine collected data and published an article evaluating washing machines. It listed 43 models, giving the brand, cost(dollars), size (cu. ft.), type, estimated annual energy cost (dollars), an overall rating (good, excellent, etc.), and repair history for that brand (percentage requiring repairs over the past 5 years)

7. The size of the washing machines is an example of what type(s) of data

Mark as many data types that apply

- A Qualitative
- B Quantitative
- C Discrete
- D Continuous

8. The overall rating of the machines is an example of what type(s) of data

Mark as many data types that apply

- A Qualitative
- B Quantitative
- C Discrete
- D Continuous

9. The estimated annual energy cost is an example of what type(s) of data

Mark as many data types that apply

- A Qualitative
- B Quantitative
- C Discrete
- D Continuous

10. Money and time are sometimes confusing things to classify as discrete or continuous, so carefully answer the following:

10 a) Why is money in paper and coin form discrete information (despite the use of the decimal system)? Use less than 50 words to explain

10b) Give an example the use of time that can be considered discrete _____

10c) Give an example of the use of time that must be continuous _____

11. State whether the data described below are discrete or continuous, and explain why.

The capacities of different hotels

Choose the correct answer below.

- A. The data are continuous because the data can only take on specific values.
- B. The data are continuous because the data can take on any value in an interval.
- C. The data are discrete because the data can only take on specific values.
- D. The data are discrete because the data can take on any value in an interval.

12. State whether the data described below are discrete or continuous, and explain why.

The lengths of carrots produced by a farm

Choose the correct answer below.

- A. The data are discrete because the data can only take on specific values.
- B. The data are discrete because the data can take on any value in an interval.
- C. The data are continuous because the data can take on any value in an interval.
- D. The data are continuous because the data can only take on specific values.

13

Last year's budget for the legislative branch of a certain Government was \$3500 million, and this year it is \$3312 million. Consider last year's budget of \$3500 million to be the reference value.

13A
What was the absolute change in the budget from last year to this year?

13B
What is the relative change from last year to this year?

13C
Proposal from the House
If next year's budget is estimated to be \$3280 million, then what is the percent decrease from this year's budget of \$3312 million?

13D
Proposal from the Senate
If next year's budget is 4% less than this year's budget of \$3312, then determine the budget for next year?

_____ million

_____ %
(round to nearest tenth of a percent)

_____ %
(round to nearest tenth of a percent)

_____ million
(round to nearest tenth of a million)

14

A study was collected of pleas made by 2050 criminals. Among those criminals, 1952 pled guilty, and 856 of them were sentenced to prison. Among the 98 other criminals, who pled not guilty, 69 were sent to prison

14A
What percentage of criminals pled guilty?

14B
What percentage of the criminals were sent to prison?

14C
Among those who pled guilty, what is the percentage who were sent to prison?

14D
Among those who pled NOT guilty, what is the percentage who were sent to prison?

_____ %
(round to nearest tenth of a percent)

_____ %
(round to nearest tenth of a percent)

_____ %
(round to nearest tenth of a percent)

_____ %
(round to nearest tenth of a percent)

15.

Define census (Use less than 50 words)

16.

Explain the difference between descriptive statistics and inferential statistics

17A.

For the data described below, identify the level of measurement as nominal, ordinal, interval, or ratio.

The distances (in miles) of different movie theaters from a person's house

Choose the correct answer below.

- ordinal
- ratio
- interval
- nominal

17B. Explain why you made that data classification BE SPECIFIC

19A

For the data described below, identify the level of measurement as nominal, ordinal, interval, or ratio.

The average temperatures (in degrees Celsius) of different locations

Choose the correct answer below.

- ratio
- interval
- ordinal
- nominal

19B. Explain why you made that data classification BE SPECIFIC

18A.

For the data described below, identify the level of measurement as nominal, ordinal, interval, or ratio.

A music critic's review scale (must listen, good, fair, bad, horrible)

Choose the correct answer below.

- ordinal
- ratio
- interval
- nominal

18B. Explain why you made that data classification BE SPECIFIC

20. Percentages Basics

20A. Find 36.45% of 456 (round answer to four decimal places of accuracy)

20B. Determine the percentage of people that saw the movie, "Straight Out of Compton", on opening weekend in a class of 52 people if 38 responded that they saw the movie (round to nearest tenth of a percent)

20C. 68.5% of what number is 213? (round answer to four decimal places of accuracy)

1
 Last year's budget for the legislative branch of a certain Government was \$4500 million, and this year it is \$4120 million. Consider last year's budget of \$4500 million to be the reference value.

<p>1A What was the absolute change in the budget from last year to this year?</p> <p>_____ million</p>	<p>1B What is the relative change from last year to this year?</p> <p>_____ % (round to nearest tenth of a percent)</p>	<p>1C Proposal from the House If next year's budget is estimated to be \$3980 million, then what is the percent decrease from this year's budget of \$4120 million?</p> <p>_____ % (round to nearest tenth of a percent)</p>	<p>1D Proposal from the Senate If next year's budget is 6% less than this year's budget of \$4120, then determine the budget for next year?</p> <p>_____ million (round to nearest tenth of a million)</p>
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2
 A study was collected of pleas made by 3075 criminals. Among those criminals, 2578 pled guilty, and 1856 of them were sentenced to prison. Among the 497 other criminals, who pled not guilty, 369 were sent to prison

<p>2A What percentage of criminals pled guilty?</p> <p>_____ % (round to nearest tenth of a percent)</p>	<p>2B What percentage of the criminals were sent to prison?</p> <p>_____ % (round to nearest tenth of a percent)</p>	<p>2C Among those who pled guilty, what is the percentage who were sent to prison?</p> <p>_____ % (round to nearest tenth of a percent)</p>	<p>2D Among those who pled NOT guilty, what is the percentage who were sent to prison?</p> <p>_____ % (round to nearest tenth of a percent)</p>
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3.
 Define census (Use less than 50 words)

_____.

_____.

_____.

4.
 Explain the difference between descriptive statistics and inferential statistics

_____.

_____.

_____.

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Identify the sample. Choose the correct answer below.

- A. The sample is all men who exercise.
- B. The sample is the 29,770 men aged 30 to 86.
- C. The sample is all men.
- D. The sample is all men who die of cancer.

6.

Identify the population of interest. Choose the correct answer below.

- A. The population of interest is all men who die of cancer.
- B. The population of interest is all men who exercise.
- C. The population of interest is all men.
- D. The population of interest is the 29,770 men aged 30 to 86.

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May 3, 2005	Lady	4 3/4	Ben	800,000	2:01.26	Dusty
May 8, 2006	Euler	2 3/4	Bruno	810,000	1:59.97	Slow

7.

The winner's payoffs is an example of what type(s) of data
Mark as many data types that apply

- A Qualitative
- B Quantitative
- C Discrete
- D Continuous

8.

The names of the winning jockeys is an example of what type(s) of data

Mark as many data types that apply

- A Qualitative
- B Quantitative
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- D Continuous

9.

The duration of the race is an example of what type(s) of data

Mark as many data types that apply

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- C Discrete
- D Continuous

10. Explain the difference between a parameter and a statistics

Use the following information to answer the following questions

In 1991, a magazine collected data and published an article evaluating washing machines. It listed 43 models, giving the brand, cost(dollars), size (cu. ft.), type, estimated annual energy cost (dollars), an overall rating (good, excellent, etc.), and repair history for that brand (percentage requiring repairs over the past 5 years)

11.

The size of the washing machines is an example of what type(s) of data

Mark as many data types that apply

- A Qualitative
- B Quantitative
- C Discrete
- D Continuous

12.

The overall rating of the machines is an example of what type(s) of data

Mark as many data types that apply

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- D Continuous

13.

The estimated annual energy cost is an example of what type(s) of data

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- A Qualitative
- B Quantitative
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- D Continuous

14. Money and time are sometimes confusing things to classify as discrete or continuous, so carefully answer the following:

14 a) Why is money in paper and coin form discrete information (despite the use of the decimal system)? Use less than 50 words to explain

14b) Give an example the use of time that can be considered discrete _____

14c) Give an example of the use of time that must be continuous _____

15.

State whether the data described below are discrete or continuous, and explain why.

The capacities of different hotels

Choose the correct answer below.

- A. The data are continuous because the data can only take on specific values.
- B. The data are continuous because the data can take on any value in an interval.
- C. The data are discrete because the data can only take on specific values.
- D. The data are discrete because the data can take on any value in an interval.

16.

State whether the data described below are discrete or continuous, and explain why.

The lengths of carrots produced by a farm

Choose the correct answer below.

- A. The data are discrete because the data can only take on specific values.
- B. The data are discrete because the data can take on any value in an interval.
- C. The data are continuous because the data can take on any value in an interval.
- D. The data are continuous because the data can only take on specific values.

17A.

For the data described below, identify the level of measurement as nominal, ordinal, interval, or ratio.

The average temperatures (in degrees Celsius) of different locations

Choose the correct answer below.

- ratio
- interval
- ordinal
- nominal

17B. Explain why you made that data classification BE SPECIFIC

18A.

For the data described below, identify the level of measurement as nominal, ordinal, interval, or ratio.

The distances (in miles) of different movie theaters from a person's house

Choose the correct answer below.

- ordinal
- ratio
- interval
- nominal

18B. Explain why you made that data classification BE SPECIFIC

19A

For the data described below, identify the level of measurement as nominal, ordinal, interval, or ratio.

A music critic's review scale (must listen, good, fair, bad, horrible)

Choose the correct answer below.

- ordinal
- ratio
- interval
- nominal

19B. Explain why you made that data classification BE SPECIFIC

20. Percentages Basics

20A. Find 52.13% of 987 (round answer to four decimal places of accuracy)

20B. Determine the percentage of people that saw the movie, "Straight Out of Compton", on opening weekend in a class of 68 people if 18 responded that they saw the movie (round to nearest tenth of a percent)

20C. 14.5% of what number is 549? (round answer to four decimal places of accuracy)