



Practice Passage #1

Most precipitation that falls on land will drain to the sea, but much of the precipitation in the Great Plains of North America accumulates in inland *saline lakes*, never making it to the ocean. The local geology of each lake's drainage basin determines the nature of its *salinity*. Different geologies result in lakes with different concentrations of positive and negative *ions* (*cations* and *anions*, respectively).

Study 1

Scientists surveyed the saline lakes of the northern Great Plains, collecting data relating *total dissolved salts* (TDS) to the concentrations of the various cations and anions that comprise this number.

Figure 1 shows scatterplots of cation and anion concentrations (in milliequivalents/liter, meq/L) as a function of total salinity (in parts per trillion [ppt] TDS). Each lake is represented by one point per plot. *Linear regression analysis* was used to find equations relating the concentration of each ion to TDS. These equations are graphed as lines with the data in Figure 1. The equations and *correlations of fit* are shown in Table 1. Correlation of fit is a measure of how well an equation matches the actual data; values near 1 indicate a good match.

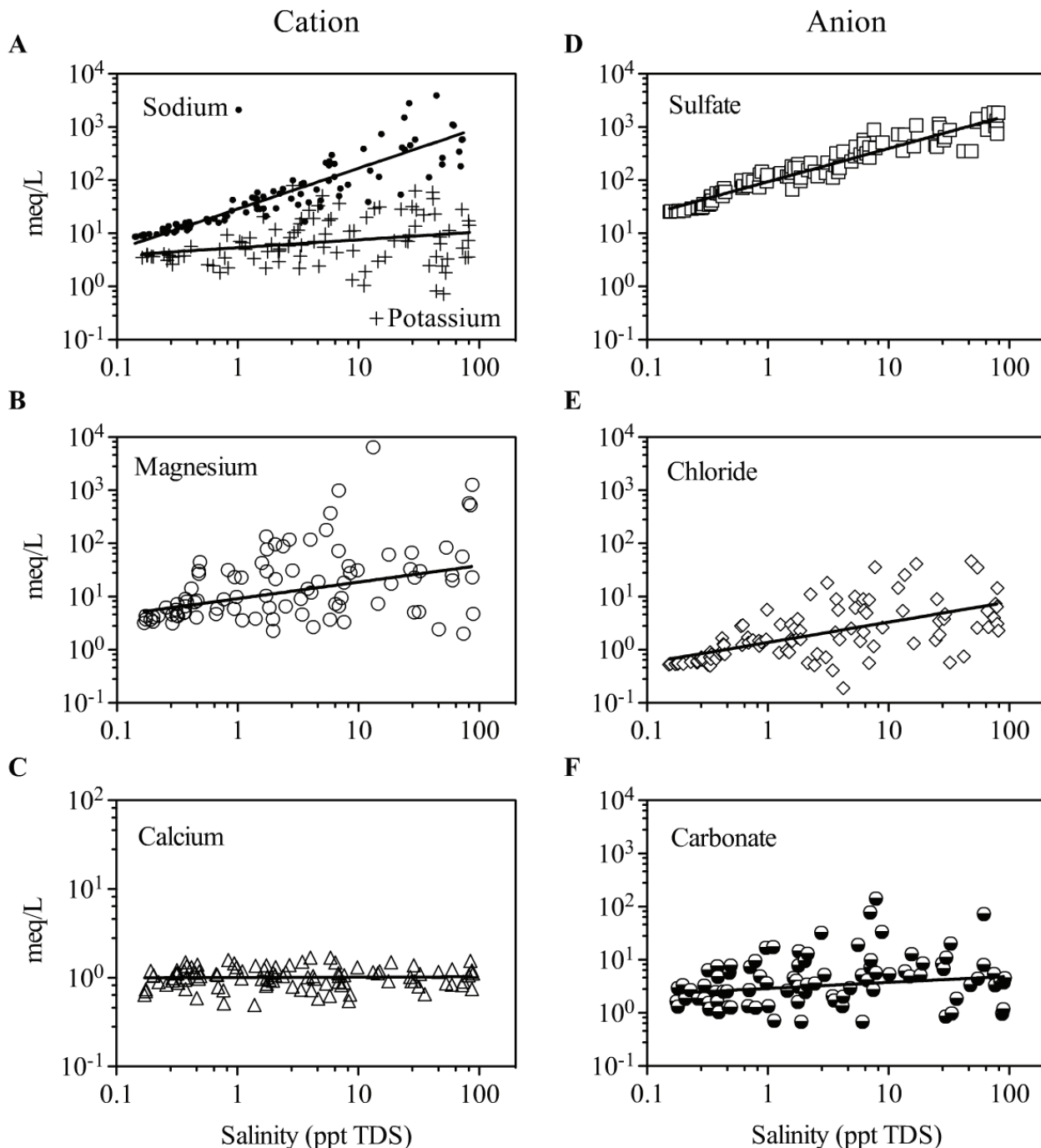


Table 1		
Ion	Best-fit equation	Correlation of fit
Sodium (Na^+)	$\text{Na} = 3.1x^{0.2}$	0.90
Potassium (K^+)	$\text{K} = 0.5x^{0.85}$	0.53
Magnesium (Mg^{2+})	$\text{Mg} = 5.8x^{0.75}$	0.66
Calcium (Ca^{2+})	$\text{Ca} = 2.2x^{0.18}$	0.45
Sulfate (SO_4^{2-})	$\text{SO}_4 = 5.3x^{1.89}$	0.94
Chloride (Cl^-)	$\text{Cl} = 0.63x^{1.12}$	0.80
Carbonate (CO_3^{2-})	$\text{CO}_3 = 5.5x^{0.43}$	0.41
$x = \text{TDS}$ Example: The concentration of Sodium is equal to $3.1 * (\text{TDS})^{0.2}$		

1. According to Table 1, TDS shows the best correlation to the concentration of which cation?

- A. Calcium
- B. Sodium
- C. Sulfate
- D. Carbonate

2. Most correlations of fit in Table 1 are high, indicating that total dissolved salts (TDS) can be a good predictor of most ion concentrations in this study. For which ion is TDS the LEAST accurate predictor?

- F. Potassium
- G. Sodium
- H. Sulfate
- J. Carbonate

3. What type of scale is used to plot salinity in Figure 1?

- A. Linear
- B. Quadratic
- C. Logarithmic
- D. Direct

4. Approximately how many lakes are included in this study?

- F. 25
- G. 100
- H. 500
- J. 10,000

5. Based on the graphs in Figure 1, how are most ion concentrations related to the concentration of total dissolved salts in the lakes under investigation?

- A. The concentration of most ions is inversely related to the concentration of total dissolved salts.
- B. The concentration of most ions is directly related to the concentration of total dissolved salts.
- C. The concentration of most ions is indirectly correlated with the concentration of total dissolved salts.
- D. The two concentrations are in different units, therefore they cannot be directly compared.

6. Across all salinities, which ion shows the smallest variability in concentration, according to Figure 1?

- F. Magnesium
- G. Calcium
- H. Carbonate
- J. Sulfate



Infographics

Questions 1-10 are based on the following passage.

This passage is adapted from David Coffler, "Tipping Point." © 2014 Choice Printing Inc.

While there is disagreement in the United States as to what percentage a customer should tip the server, the question of whether or not to tip has been answered unanimously in the affirmative. That is just the way it is. But is tipping actually a good system? To put it another way, does it actually produce favorable results for the various parties involved: customers, servers, restaurant owners, and the country in general? After all, just because it is the system we have, does not necessarily mean that it is a good system.

In many countries around the world, tipping is not customarily expected. In a few countries, tipping is taken as a sign of disrespect. In fact, tipping is a relatively modern convention in the United States, where until recently it was seen as a tacky way for wealthy people to bribe servers in exchange for favors like cutting in line or being seated in a preferred booth. All that changed when prohibition sent restaurant profits tumbling, and restaurateurs began encouraging tipping as a way to bring down expensive labor costs by subsidizing wages. After prohibition, however the practice of tipping remained. A century later, many states allow restaurants to pay servers less than the minimum wage. In some states, the hourly rate for tipped workers is as little as \$2.13 per hour. Tips provided by the customer – that's you – make up the difference between the server's below-minimum wage paycheck and the actual compensation that the server needs to live. Consequently, tipping is effectively mandatory even if it is technically optional.

Most customers are happy to tip because they believe it creates an incentive for servers to provide better service. Studies, however, have conclusively demonstrated pretty much the opposite. Because servers rely on tips for such a large portion of their income, they tend to prioritize the needs of regulars, customers who visit the restaurant repeatedly and generally leave better tips. Similarly, servers are also incentivized to profile their customers based on stereotypes. For example, a server might choose to minimize the time and energy he or she devotes to a table of teenagers, based on the speculation that they're less likely to tip generously. As a result, servers choose how to divide their attention among tables based on preconceived notions. The assumption that the threat of withholding a tip causes servers to maximize the average level of service among all tables is false. Servers place bets, using their time as the wager, as if their rent depends on it.

Before you get upset with servers for mistreating customers, consider that studies have suggested that the reverse is true as well. One such study highlighted the correlation between the attractiveness of the server and the tips they receive. In that study, the server's attractiveness and hair color were better predictors of amount tipped than were the speed and attentiveness of her service. In essence, attractive blond females earned substantially higher tips regardless of the

objective quality of their service.

This workplace advantage comes at a steep cost, since the heavy reliance on the generosity of customers causes some servers to tolerate inappropriate behavior in order to avoid losing out on tips. Furthermore, not every server is a blond female. What about the rest of us? Research shows that older servers tend to earn significantly lower tips as a percentage of their sales receipts.

Even so, servers are often among the highest paid employees in restaurants, taking home more money than their managers. According to the National Restaurant Association, the median hourly wage for tipped employees ranges from \$16 to \$20 per hour, depending on experience level. Not bad, considering the median hourly rate for a paramedic is only \$16 per hour.

In the end, it falls to all of us to decide whether this is the system we want to live with. Setting aside all the problems caused for servers, tipping also makes dining out less enjoyable for customers, who must take an awkward math quiz in front of their friends to determine the appropriate amount to tip.

What is 15% of \$91.00? Should I tip on the tax? No. Wait. We're a party of seven, so the tip is already included, right? Or is that just for parties of eight or more people? Why doesn't this pen work?! That's it! No tip!

Demographic		Total Work Force	Tipped Workers	Waiters
Sex	Female	48.6%	72.9%	72.4%
	Male	51.4	27.1	27.6
Age	Under 20	4.0	12.0	18.1
	20 to 29	21.9	43.1	48.5
	30 to 39	22.1	19.3	14.5
	40 to 49	23.7	14.3	11.2
	50 or older	28.3	11.4	7.7
Education	Less than high school	10.2	13.9	17.2
	High School	28.6	33.1	30.2
	Some College	29.5	40.6	41.0
	Bachelor's or higher	31.7	12.3	11.5
Race	White	68.0	67.0	69.6
	Black	11.1	7.8	6.9
	Hispanic	14.4	13.6	15.3
	Other	6.5	11.6	8.2

Country	Tipping Conventions		
	Restaurants	Porters	Taxis
Australia	10% in fine restaurants only	\$2 per bag	Round up
Bahrain	10%	\$1-\$2 per bag	10%
Brazil	10-15%	\$1 per bag	10%
Chile	10% in addition to service charge	\$1 per bag	None
China	3% in major cities	\$1-\$2 per bag	None
Denmark	None	\$1 per bag	Round up
Japan	Tipping is perceived as insulting	None	None
Mexico	10-15%	\$1 per bag	50 cents
Morocco	Leave loose change	50 cents per bag	Round up
Portugal	10-15% if no service charge	\$1 per bag	Round up
Scotland	10-15% if no service charge	\$1 per bag	Round up
Singapore	None	None	None
South Korea	None	None	None
United States	15-20%	\$1-\$2 per bag	10-15%
Vietnam	Tipping is illegal	None	None

1

As it is used in line 14, "convention" most nearly means

- A) practice.
- B) ceremony.
- C) generalization.
- D) code.

2

The author's main purpose for including information about the history of tipping in the United States is to

- A) present evidence that suggests an alternative origin of the custom of tipping.
- B) demonstrate that the custom of tipping is the result of government's mistakes relating to the implementation and repeal of prohibition.
- C) establish that elsewhere in the world and throughout much of United States history, tipping has not always been the norm.
- D) establish that the practice of tipping should not be questioned.

3

The author uses the phrase "effectively mandatory" in lines 29-30 to indicate that

- A) tipping is necessary for the profitability of the restaurant industry.
- B) servers are required to share a portion of their tips with the kitchen staff.
- C) failing to provide a tip for one's server is generally considered inconsiderate.
- D) many servers depend on the income they receive through tips.

4

As it is used in line 41, "devotes" most nearly means

- A) allocates.
- B) charges.
- C) purchases.
- D) endures.

5

A restaurant customer claims that the custom of tipping forces servers to provide better service. Which of the following statements in the passage contradicts the customer's claim?

- A) Lines 11-12 ("In many . . . expected")
- B) Lines 29-30 ("Consequently . . . optional")
- C) Lines 43-45 ("As a . . . notions")
- D) Lines 70-73 ("According to . . . level")

6

According to the author's statements in the passage, the amount customers generally tip servers in the United States is

- A) determined by factors that are unrelated to the quality of service provided.
- B) approximately 15 to 20% of the total check.
- C) directly correlated with the age of the server.
- D) unlikely to affect the service you receive from that server in the future.

7

Based on statements in the passage, it can reasonably be inferred that the author of the passage

- A) considers tipping a necessary evil in countries outside the United States.
- B) endorses a policy of not tipping servers.
- C) believes servers should provide better service to all customers regardless of the likelihood that they will tip.
- D) either does not have blond hair or is not female.

8

Which choice provides the best evidence for the answer to the previous question?

- A) Lines 11-12 ("In many . . . expected")
- B) Lines 40-43 ("For example . . . generously")
- C) Lines 64-65 ("What . . . us?")
- D) Lines 68-70 ("Even so . . . managers")

9

According to the information in the first table, which of the following is the highest percentage of tipped workers?

- A) workers who are under the age of 20
- B) workers with less than a high school diploma
- C) workers who are 50 years of age or older
- D) workers with a bachelor's degree

10

Based the information in the second table, which of following transactions would require the largest tip?

- A) a \$120.00 restaurant bill in Tokyo, Japan
- B) a \$35.00 taxi ride in Manama, Bahrain
- C) a \$200.00 dinner bill in Beijing, China
- D) a porter carrying 7 bags in Rio De Janiero, Brazil

11

According to the second table, which of the following nations would be included in "many countries" (line 11)?

- A) Australia
- B) Singapore
- C) Denmark
- D) Scotland



REMEMBER:
Enter your answers
online for instant scoring
and video solutions!

Looks like among the groups in the answer choices, the highest percentage of tipped workers is workers with less than a high school diploma.

Demographic		Total Work Force	Tipped Workers	Waiters
Sex	Female	48.6%	72.9%	72.4%
	Male	51.4	27.1	27.6
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Singapore	None	None	None
South Korea	None	None	None
United States	15-20%	\$1-\$2 per bag	10-15%
Vietnam	Tipping is illegal	None	None

\$1.00 per bag in Brazil tops the list of tips in question #10.

Apparently, tipping isn't a thing in Singapore.



Infographics

There was a time when the SAT focused on a bunch of isolated skill sets. Students sat down and answered a bunch of bite-sized questions that had nothing to do with one another. If you missed one question, then it wasn't that big a deal because the next one was a whole new ballgame. Well, those days are gone.

The new SAT is big on combining skill sets. Put simply, that means you should expect to see a couple informational graphics (infographics) on the verbal sections of the SAT. Typically, you'll encounter two infographics on the Reading Section and two more on the Writing Section.

These infographics show up in the form tables, charts, and graphs that are referenced by the passage. Make sure you understand the information that's represented in the infographic and how it relates to the information in the Reading Passage. Then, you'll need to answer a few questions about the graphic. Often you'll be asked which statement in the answer choices is supported by the data in the infographic(s).