

Practice problems for Quantitative Literacy test

Problems are numbered corresponding to a similar problem on the exam. Actual exam questions will have different number values in story problems and different questions asked in data interpretation problems.

1. There are 12 freshmen, 6 sophomores, 12 juniors and 16 seniors in the club. What percentage of club members are sophomores?

Enter a number corresponding to the nearest integer: _____

2. Google maps has told Juanita that her car trip will be 32 miles Juanita has already gone 14 miles. How fast, in miles per hour, must Juanita drive to arrive in 16 more minutes?

Enter a number correct to the nearest integer: _____

3. For each object, choose the closest metric measurement (circle the correct answer):

- a. The width of a pinky finger: 1 cm 1000 cm 10,000 cm 10 cm 100 cm
- b. The height of a stool: 1 cm 100 cm 1000 cm 10 cm 10,000 cm
- c. The weight of a large adult: 1 kg 100 mg 1 mg 100 kg 10 g
- d. The volume of water in a bathtub: 50 ml 500 ml 5 l 50 l 500l

4. Ibrahim owns a rectangular shaped property having a width of 1.9 miles and length of 3.6 miles. Once a week, Ibrahim walks around the perimeter of his property at a pace of 4.2 miles per hour. How many hours does it take Ibrahim to walk around the perimeter of his property once?

Enter a number correct to one decimal place: _____

5. In a 1 square foot patch of lawn, 5 grubs were found. If grubs infest an entire 60 feet by 103 feet rectangular shaped lawn at the same rate, how many grubs are in the lawn?

Enter a number correct to the nearest integer: _____

6. A doctor recommends that a person who weighs 63 pounds be given 200 milligrams of a medicine. If the dosage is proportional to a person's weight, how many milligrams of medicine would the doctor recommend for a person who weighs 94 pounds?

Enter a number correct to the nearest integer: _____

9. The surface area A (in square centimeters) of a can is given by the formula $A = 2\pi r^2 + 2\pi rh$, where π is approximately 3.14, r is the radius (in centimeters) of the circular ends, and h is the height (in centimeters) of the can. What is the surface area (in square centimeters) of a can having a radius of 4.1 centimeters and a height of 15.3 centimeters?

Enter a number correct to the nearest integer: _____

13. Suppose that $d = f(t)$ represents that function in which t is the number of hours a submarine has been on the ocean and $d = f(t)$ is the depth (in meters) of the submarine. Suppose a second submarine is described by $d = 2f(t)$. Which of the following is true about the second submarine?

- a. The second submarine left the dock two hours before the first.
 b. The second submarine left the dock two hours after the first.
 c. The second submarine is diving twice as deep as the first.
 d. The second submarine is diving half as deep as the first.

16. Test Takers, State by State

Percentage of high school graduates in classes of 2001 and 2006 who took each test (some students took both exams):

Exam	SAT		ACT	
Year	2001	2006	2001	2006
Alabama	9	9	69	79
Alaska	51	51	34	25
Arizona	34	32	28	18
Arkansas	6	5	75	75
California	51	49	12	14

For each of the following statements, select the best response based only on the above table.

More students from Arizona took the ACT than the SAT in 2006

- True False Cannot Determine

In 2001, more Alaskan than Arizonan students took the ACT.

- True False Cannot Determine

No more than 9% of the students from Alabama took both exams in 2001.

- True False Cannot Determine

About 63% of California students took at least one of the exams in 2006.

- True False Cannot Determine

20. If there are 6.3 billion people in the world now and the population increases at a (compounded) rate of 1.7% per year, how many billion people will there be in 26 years?

Enter a number correct to one decimal place: _____

23. Two people are chosen at random from among 30 men and 28 women. What is the percent chance that both people are women?

Enter a number correct to the nearest integer: _____

25. Determine whether each of the following methods of selecting a sample of Goshen College students is biased or unbiased.

- | | | |
|---|--------|----------|
| a. Writing an email to every student and selecting those who respond. | Biased | Unbiased |
| b. Randomly selecting only 15 students from a list of all students. | Biased | Unbiased |
| c. Selecting all of the students taking a biology course this semester. | Biased | Unbiased |

26. In a March 2007 Gallup poll of a random sample of 800 American adults, 67% of the respondents stated that the situation/war in Iraq should be the top priority for the president and Congress. It was also stated that with 95% confidence the maximum margin of sampling error was ± 4 percentage points.

67% of the respondents stated the situation/war in Iraq should be the top priority for the president and Congress. True False Cannot determine

67% of all American adults would have stated the situation/war in Iraq should be the top priority for the president and Congress. True False Cannot determine

Between 63% and 71% of all American adults would have stated the situation/war in Iraq should be the top priority for the president and Congress. True False Cannot determine

With probability 0.95, between 63% and 71% of all American adults would have stated the situation/war in Iraq should be the top priority for the president and Congress. True False Cannot determine

ANSWERS

1. 13

13. c.

2. 68

16. False, Cannot determine, True, True

3. 1 cm, 100 cm, 100 kg, 50l

20. 9.8

4. 2.6

23. 23

5. 30900 (no comma!)

25. Biased, Unbiased, Biased

6. 298

26. True, Cannot determine, Cannot determine, True

9. 500