

MTH/215T: Quantitative Reasoning I (40)

Homework: Week 2 Homework

Score: 0 of 1 pt

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3.B.23

Rewrite the following statement using a number in scientific notation.

My new music player has a capacity of 430 gigabytes. (Recall that giga means billion.)

My new music player has a capacity of bytes.

(Use scientific notation. Use the multiplication symbol in the math palette as needed.)

Enter your answer in the answer box and then click Check Answer.

All parts showing



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3.B.25

Rewrite the following statement using a number in scientific notation.

The diameter of a certain bacterium is about 0.00000007 meters.

The diameter of a certain bacterium is about meters.

(Use scientific notation. Use the multiplication symbol in the math palette as needed.)

Enter your answer in the answer box and then click Check Answer.

All parts showing

Clear All

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3.B.27

Estimate the following quantities without using a calculator. Then find a more precise result, using a calculator if necessary. Discuss whether the approximation technique worked.

- a. $200,000 \times 200$
- b. 5.1 million \times 2.2 thousand
- c. $4 \times 10^9 + (1.9 \times 10^6)$

a. The approximate value of $200,000 \times 200$ is .

(Use scientific notation. Use the multiplication symbol in the math palette as needed.)

Enter your answer in the answer box and then click Check Answer.

8 parts remaining

Clear All

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3.B.29

Use estimation to make the following comparison.

Which is greater, the amount the average person spends in a month on coffee or the amount the average person spends in a month on gasoline?

Choose the correct answer below.

- The amount a person spends on coffee in a month is greater.
- The amount a person spends on gasoline in a month is greater.

Click to select your answer and then click Check Answer.

All parts showing

Clear All

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3.B.31

Could an average person lift the weight of \$100 in dimes? (A single dime weighs approximately 2.27 grams.)

Choose the correct answer below.

- A. No because the weight of 1000 dimes is about 50 pounds.
- B. Yes because the weight of 1000 dimes is about 10 pounds.
- C. Yes because the weight of 1000 dimes is about 5 pounds.
- D. Yes because the weight of 1000 dimes is about 1 pound.

Click to select your answer and then click Check Answer.

All parts showing

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3.B.33

Make an order of magnitude estimate of the following quantity. Explain the assumption used in your estimation.

The number of times the average person's heart beats in a day

Choose the correct answer below.

- A. 432,000; assuming an average person's heart beats 5 times a second
- B. 8640; assuming an average person's heart beats once every 10 seconds
- C. 86,400; assuming an average person's heart beats once a second
- D. 1440; assuming an average person's heart beats once a minute

Click to select your answer and then click Check Answer.

All parts showing

Clear All



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3.B.35

Make an order of magnitude estimate of the following quantity. Explain the assumption used in your estimation.

The amount of water the average person drinks in a year

Choose the correct answer below.

- A. 180 gallons; assuming an average person drinks 4 pints per day
- B. 730 gallons; assuming an average person drinks 2 gallons per day
- C. 23 gallons; assuming an average person drinks 1 cup per day
- D. 50 gallons; assuming an average person drinks 1 liter per day

Click to select your answer and then click Check Answer.

All parts showing

Clear All



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3.B.39

What is the order of magnitude estimate of the amount of hours you spend in a shower or bath in a year?

Choose the correct answer below.

- A. The order of magnitude estimate would be 6 hours; assuming an average person spends 1200 minutes in a shower or bath during a three month period.
- B. The order of magnitude estimate would be 61 hours; assuming an average person spends 10 minutes in a shower or bath per day.
- C. The order of magnitude estimate would be 365 hours; assuming an average person spends 1 hour in a shower or bath per week.
- D. The order of magnitude estimate would be 3650 hours; assuming an average person spends 1 hour in a shower or bath per month.

Click to select your answer and then click Check Answer.

All parts showing

Clear All



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3.B.57

There are approximately 3.8 million deaths per year in country A. Express this quantity as deaths per minute.

In country A, there are deaths/min.

(Type an integer or decimal rounded to one decimal place as needed.)

Enter your answer in the answer box and then click Check Answer.

All parts showing

Clear All



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3.B.65

Estimates of the number of cells in the human body vary over an order of magnitude. Indeed, the precise number varies from one individual to another and depends on whether you count bacterial cells. Complete parts (a) through (c) below.

a. Assume that an average cell has a diameter of 5 micrometers (5×10^{-6} meter), which means it has a volume of 50 cubic micrometers. How many cells are there in a cubic centimeter?

cells per cm^3

(Use scientific notation. Use the multiplication symbol in the math palette as needed. Round to two decimal places as needed.)

Enter your answer in the answer box and then click Check Answer.

2 parts remaining

Clear All



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3.B.67

An issue of a magazine contained the following statement.

Dropping less than two inches per mile after emerging from the mountains, a river drains into the ocean. One day's discharge at its mouth, 8.4 trillion gallons, could supply all of country A's households for six months. Based on this statement, determine how much water an average household uses each month. Assume that there are 200 million households in country A.

Country A uses approximately gallons per household per month.
(Type a whole number.)

Enter your answer in the answer box and then click Check Answer.

All parts showing

Clear All

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3.B.59

Restate the following fact as indicated.

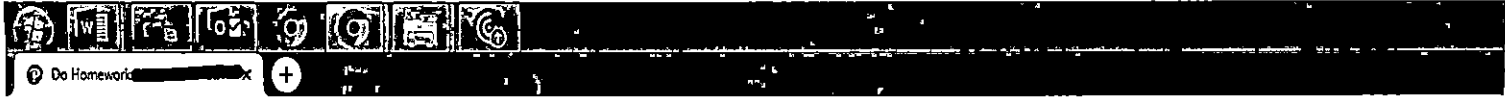
Approximately 32,800 citizens of a country died in automobile accidents in 2015. Express this toll in deaths per day.

There were approximately deaths per day due to automobile accidents.
(Round to the nearest whole number as needed.)

Enter your answer in the answer box and then click Check Answer.

All parts showing

Clear



Do Homework

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3.B.67

An issue of a magazine contained the following statement.

Dropping less than two inches per mile after emerging from the mountains, a river drains into the ocean. One day's discharge at its mouth, 8.4 trillion gallons, could supply all of country A's households for seven months. Based on this statement, determine how much water an average household uses each month. Assume that there are 200 million households in country A.

Country A uses approximately gallons per household per month.
(Type a whole number.)

Enter your answer in the answer box and then click Check Answer.

All parts showing

Clear All