Warm up 1 – 1

At $13.5 million, they closed last month for…20 percent above what they paid in 2007. How much did they pay in 2007?

Your total cost for dinner in a restaurant after the tip was $76.40. Assuming you left a 20% tip, what was the bill for food and taxes?

Your dinner bill is $42.50. You leave a $50 bill. What percent tip did you leave? (ignore taxes in this question)

My new music player has a capacity of 340 gigabytes (recall that giga means billion) Write this value in scientific notation

Without a calculator, approximate the answer.
5.1 million x 1.9 thousand

3A percentage practice

Your friend payed for lunch and gave the waiter a $100 bill. He said he gave the guy a 30% tip. What was the cost of the food with taxes included?

Could a person walk across the US (NY to Cali) in a year? If not, about how long would it take? Explain your values and your answer.

The 2010 prison population in the US was approx 1.6 million. How many arenas with a capacity of 50,000 would this population fill? No calculator and approximate.

In 2011, Walmart had profits of $16.4 billion. Express this profit in terms of dollars per minute.

How many times greater is the suns annual energy generation bigger than the US Annual energy consumption?

Write 4 trillion in scientific notation.

Without a calculator, work out the following problems

$(4 \times 10^7) \times (2 \times 10^8)$ $(3.2 \times 10) \times (2 \times 10^4)$

Warm up 2 – 1

The fastest spaceships launched to date are traveling away from Earth at speeds of about 50,000 kilometers per hour. How long would such a spaceship take to reach Alpha Centauri, 4.3 light years away? Based on your answer, write a paragraph discussing whether interstellar travel is a realistic possibility today. A light-year is the distance that light can travel in one year; 1 light-year = 9.5×10^2 km.

Warm up 2 – 2

According to modern science, Earth is about 4.5 billion years old and written human history extends back about 10,000 years. Suppose you represent the entire history of Earth with a 100-meter-long timeline, with the birth of Earth on one end and the today at the other end.

a) What distance represents 1 billion years?

b) How far from the end of the timeline does written human history begin?

Warm up 2 – 3

There are approximately 4 million births per year in the US. Express this quantity in births per minute.

Your bill costs $52.86 at Olive Garden for you and your family. If you want to leave a 18% tip, what should your final bill cost?

Your friend goes to the mall and calls you saying they bought a new leather jacket and that he got it on sale. He says it originally cost $120 but with the 35% discount he only paid $75. Did he pay the right amount? If not, was he overpriced or underpriced and how much should he have paid?

Warm up 3 – 1

Write final answer in both scientific notation and expanded form.

The human eye blinks an average of 4, 200, 000 times a year. How many times do we blink in a minute? Do you agree with this number? Is it too low or high?

Write these numbers in expanded form and in scientific notation

$(5 \times 10^3) + (4.3 \times 10^4)$ $(3.5 \times 10^5) \times (4 \times 10^3)$

Warm up 3 - 2

Write each value down and state the number of significant digit it contains.

1,0238.0   -0.0450   100, 500. 0

percents

If you left a $100 bill for your meal with a 12% tip. What was the original cost of the meal?

Conversion

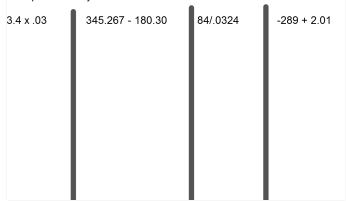How many inches is 7 miles?

Warm up 3 - 3

Label each value with the number of significant digits, then perfo the operation and round according to the rules.

3,264.09 + .03	10.05 x .005	3,004.0 / 42	.02 - 1.24

Warm up 4 - 1

Perform the following operations, round according to the rule and state to what place value you rounded to.

3.4 x .03	345.267 - 180.30	84/.0324	-289 + 2.01

Warm up 4 - 2

What is the difference between random and systematic error? Describe each and give an example.

Find the absolute and relative error for the following problems:

I graded your tests that had 15 questions. You missed 4 and should of received a grade of 73, but I accidently graded it as if there was 13 questions and gave you a grade of 69.

You buy a vitamin that has 100 capsules. 5 days later you count them and see there is only 92.

In class you calculated that the distance to the moon in miles to be 237,345.98. The distance on NASA reports it to be 238,900 miles. Which value is precise and which is accurate?

Definition

Accuracy- the state of being correct.

Definition

Precision- the state of providing description which is detailed and has little uncertainty.

Which value has the most significant digits for each line?

1.2 x 10   0.00234   0.043

You can get 15 miles per gallon on your car. You have 12.2 gallons of gas in your car. According to the standar rules , how far would your car go on your tank of gas?

Warm up 4 - 4

Use the appropriate rounding rules to do the following calculations. Express the results with the correct number of significant digits

Divide 102 miles by 0.65 hours

At the hardware store, you buy a 50-kilogram bag of sand. You also buy 1.25-kilogram of nails. What is the total weight of your purchase?

___ ____ _____ _____ _____ _____ ____ _____ _____ ____ ___

Taking the temperature outside with more than one thermometer reduces which error? Systematic or random?

If I only graded 1st period's test wrong, is this an example of systematic or random error?

Warm up 5 - 1

Use the appropriate rounding rules to do the following calculations. Express the results with the correct number of significant digits

(125)(.04201)   235. 07 - .0150   46.011 + (-1.24)   .900 / .34

Warm up 5 - 2

Use the appropriate rounding rules to do the following calculations. Express the results with the correct number of significant digits. What place value did you round to?

(9.2)(3.45)   7.23 + .105   932 / 3.34   -843 - 4.628

Finding an index number
Gas last year cost $3.75. Today it cost $1.78. What is the price index of today's gas compared to last years? What does this number mean?

Warm up 5 - 3

Use the appropriate rounding rules to do the following calculations. Express the results with the correct number of significant digits. What place value did you round to?

(9.2)(3.45)   7.23 + .105   932 / 3.34   -843 - 4.628

Finding an index number

Gas last year cost $3.75. Today it cost $1.78. What is the price index of today's gas compared to last years? What does this number mean?

Warm up 5 -4

If it cost $13.37 to fill your gas tank in 1980, how much would it have cost to fill the same tank in 2010?

If it cost $12.50 to fill up your gas tank in 1990, what fraction of the same tank could you fill up with $12.50 in 2010?

If someone needed $18,500 to maintain a certain standard of living in 1997, how much would be needed to maintain the same standard of living in 2012?

Warm up 6 -1

If someone needed $35,647 to maintain a lifestyle in 1982, how much would they need in 2010 to maintain the same lifestyle?

If it cost $14.50 to fill your tank of gas in 1990. How many gallons of gas did you car hold?

With gas costing $1.77 a gallon, what percentage of the gas tank can you fill from the previous question with only spending $14.50?

Warm up 6 - 2

If a movie ticket cost $9.00 in 2008, what was its price in 1980 dollars?

What was the purchasing power of $1 in 1976 in terms of 2006 dollars?

If it costs $7 for a Subway sandwich in 2012, how much would it have cost in 1976?