

Student name: \_\_\_\_\_

**SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.**

Express this verbal form in number form: Twelve thousand, nine hundred fifty-three

Round to nearest position as indicated: Nearest Ten 74

Round to nearest position as indicated: Nearest Hundred: 792

Round to nearest position as indicated: Nearest Thousand: 9,314

Estimate by rounding all the way (do not round final answer):

$$5,817 + 7,500$$

Estimate by rounding all the way (do not round final answer):

$$258,499 + 17,994$$

Fill in missing number:  $3,910 - \underline{\hspace{2cm}} = 79$

Fill in missing number:  $2,188 - \underline{\hspace{2cm}} = 750$

Multiply by the shortcut method:

$$130 \times 1,000$$

Multiply by the shortcut method:

$$6,150 \times 10,000$$

Divide by the shortcut method:

$$\frac{130,000}{1,000}$$

Divide by the shortcut method:

$$\frac{1,600}{20}$$

Divide by long division (show work):

$$\frac{6,644}{181}$$

Take  $\frac{6,951}{81}$  .

- A. Estimate by rounding all the way;
- B. Do the actual calculation:
- A. Estimate \_\_\_\_\_
- B. Actual \_\_\_\_\_

Ray Company receives a shipment of 25 cartons of stereos. In each carton are five stereos. Each stereo sells for \$80 and has a \$30 cost to Ray. Assuming Ray sells all the stereos, what would its profit be?

Micah purchased two new Jeep Cherokees for \$27,500 per Jeep, and paid \$3,200 down on each car. What total amount should Micah borrow to pay for the cars?

John's Pizza sold \$11,130 worth of pizza for one week. The same number of pizzas were sold each day. Each pizza sells for \$6. How many pizzas were sold each day, assuming a seven-day work week.

Fleet Center seats 19,580 people. Total attendance for the season is 453,500. Assuming a 25-game home schedule, what is the average attendance per game? If each ticket cost \$180, what would a sellout (all seats filled) bring in for revenue for a game?

What is the total of the following verbal forms? Twelve thousand, four hundred eighty-four plus Fourteen million, eight plus Eleven thousand, six hundred twenty-two

Express 8,732,649 in verbal form:

Round the number 65 to the Nearest Ten:

Round the number 686 to the Nearest Hundred:

Round the number 7,108 to the Nearest Thousand:

Round the number 15,915 all the way:

Estimate by rounding all the way, work actual problem, and check by adding each column of digits separately.

$$1,905 + 3,755 + 6,939$$

- A. Estimate \_\_\_\_\_
- B. Actual \_\_\_\_\_
- C. Check \_\_\_\_\_

- A. Estimate by rounding all the way:  $5,218 \times 605$
- B. Do actual calculation:  $5,218 \times 605$

Multiply by the shortcut method:  $629,510 \times 1,000$

Divide to find the quotient and the remainder:  $\frac{16,192}{58}$

Divide by the shortcut method:  $\frac{1500}{50}$

Celeste buys a ticket to a concert for \$473. How much change will Celeste receive, after handing the ticket agent five \$100 bills?

Dion plans to buy a boat for \$19,500 with an interest charge of \$2,500. Dion can afford a monthly payment of \$650. If Dion has to pay 36 equal monthly payments, can he afford the boat?

In 2020, Lucy earned \$66,000 in real estate commissions. If Lucy's average commission was \$6,000 per house, how many houses did Lucy sell?

Art Missan has his oil tank filled 12 times per year. His oil tank has a 300-gallon capacity. Assuming the price of home heating fuel is \$3.00 per gallon and the tank is completely empty each time Art has it filled, what is Art's average monthly bill?

Try to complete blueprint aid to dissecting a word problem.

Express this verbal form in number form: Eighteen thousand, one hundred sixty-five

Express this verbal form in number form: Two million, thirty-eight thousand, five hundred three

Round the number 95 to the nearest ten:

Round the number 1,840 to the Nearest Hundred:

Round the number 2,499 to the Nearest Thousand:

Round the number 84 to the Nearest Ten:

Round the number 671 to the Nearest Hundred:

Round the number 6,752 to the Nearest Thousand:

Estimate by rounding all the way (do not round final answer):  $4,918 + 6,500$

Estimate by rounding all the way (do not round final answer):  $9,100 + 8,555$

Estimate by rounding all the way (do not round final answer):  $3,342 + 9,581$

Estimate by rounding all the way (do not round final answer):  $2,944 + 7,653$

Fill in the missing number:

$$31,982 - \underline{\hspace{2cm}} = 1472$$

Fill in the missing number:

$$1,950 - 890 = \underline{\hspace{2cm}}$$

Fill in the missing number:

$$1,095 - \underline{\hspace{2cm}} = 39$$

Subtract:  $9,438 - 8,888$

Convert 3.4 million to a regular whole number.

Convert 18.25 million to a regular whole number

Multiply by the shortcut method:  $525 \times 1,000,000$

Multiply by the shortcut method.  $1,650 \times 10,000$

Divide by the shortcut method:  $\frac{160,000}{1,000}$

Divide by the shortcut method:  $\frac{190,000}{10,000}$

Divide by the shortcut method:  $\frac{180,000}{100}$

Divide by the shortcut method:  $\frac{165,000}{1,000}$

Divide by long division and then check the answer:  $\frac{6,514}{191}$

Divide by long division and then check the answer:  $\frac{6,438}{132}$

Divide by long division:  $\frac{5652}{17}$ . Find

- A. The Estimate
- B. The Actual Quotient

Divide by long division:  $\frac{8241}{12}$ . Find

- A. The Estimate
- B. The Actual Quotient

Regan College had 30 teachers in the Business Department on January 1, 2020. During 2020, seven teachers retired, and three new teachers were hired. At the end of 2020, how many teachers were employed in the Business Department of Regan College?

Anika rents a luxurious condominium for \$37,200 for six months. What is the rental charge per month that Anika pays?

Abe Real Estate is developing 15 solar homes per state in 25 states. If the cost of each home is estimated at \$80,000, what is the projected cost for the entire development?

Cho wants to buy a used van that costs \$16,000 with an interest charge of \$2,000. Cho can afford a monthly payment of \$700 per month.

1. If there are 24 equal payments required, can Cho afford the van?
2. Calculate the monthly payment amount.

Al's Hardware buys 200 lawn mowers for \$50 each to stock the store for spring. If Al sells the 200 lawn mowers at \$80 each, what is his profit? (profit = sales – cost)

A pocket calculator has a retail selling price of \$12. The price has been reduced to \$7. Bill purchases a calculator, handing the clerk a \$100 bill. What change does Bill receive?

Mary Ross drove 1,064 miles. Her gas tank holds 28 gallons. How many miles per gallon did Mary's car get?

Emma earned \$101,250 selling real estate in 2020. If Emma's average commission was \$3,750 per unit sold, how many pieces of property were sold?

Al Ring, Martha Wright, and Jim Brewer wrote a text called Principles of Math. The royalties on the book are to be split equally. Total royalties earned for the year are \$9,936. How much is author each entitled to?

The oil tank of Jorge's home is filled 12 times per year. The oil tank has a capacity of 144 gallons. Assuming the price of home heating fuel is \$2 per gallon, how much did Jorge spend on oil heat for the year? What is the average monthly heating bill?

The Missouri State Prison saw an increase in visitors from 3,290 in 2020 to 17,200 in 2021. How many more visitors did the prison see in 2021?

Tom traveled with his son Jeff to Branford, CT, by car and flew back at a cost of \$443. He handed the ticket agent a \$1,000 traveler's check. How much will Tom get back?

Round the number 18,932 to the Nearest Hundred:

The price of gas is \$2.00 per gallon in Florida, well below the average price in California of \$3.00 per gallon. If your Ford Taurus has a 20-gallon tank, assuming you are on empty, how much more will you pay for gas in California?

Katy purchased 100 shares of Facebook's IPO @ \$38.00 a share. One year later she sold it all for \$50 a share. What was her total gain?

Multiply by the shortcut method:

$$2300 \times 300$$

Estimate by rounding all the way (do not round final answer):  $32,178 + 18,992$

Round the number 235,726 to the Nearest Thousand:

Round the number 159,431 to the Nearest Ten Thousand:

Round to nearest position as indicated: Nearest Ten Thousand: 2,475,732

## Answer Key

Test name: ch1 problem material e15

Short Answer

12,953. Express each digit in the number separately with its correct place value

Short Answer

70. 74 is closer to 70 than to 80

Short Answer

800. 792 is closer to 800 than to 700

Short Answer

9,000. 9,314 is closer to 9,000 than to 10,000

Short Answer

Rounding all the way means to round to the largest place value shown, so 5,817 turns into 6,000 and 7,500 turns into 8,000.  $6,000 + 8,000 = 14,000$ .

Short Answer

Rounding all the way means to round to the largest place value shown, so 258,499 estimates to 300,000 and 17,994 estimates to 20,000.  $300,000 + 20,000 = 320,000$

Short Answer

3,831. Subtract the shown difference, 79, from the minuend, 3,910

Short Answer

1,438.

Subtract the shown difference, 750, from the minuend, 2,188.

Short Answer

130,000. 1 times 13 is 13, then attach the four zeros at the end.

Short Answer

61,500,000. Attach five zeros to 615

Short Answer

130. Remove the three common zeros from 130,000 to get 130

Short Answer

80.  $\frac{16}{2} = 8$ . Remove the one common zero. There is still one zero left, so the answer is 80.

Short Answer

36 R128. 181 goes into 664 three times with 121 left over. Bring down the 4, so now take 181 into 1214. 181 goes into 1214 six times with 128 left over. 6644 divided by 181 is 36 R 128

Short Answer

- A. 7,000 divided by 80 is 87 with 40 left over.
- B. 6,951 divided by 81 is 85 with 66 left over.

Short Answer

Determine the total number of stereos by multiplying the number of cartons by the number of stereos in each carton. Find the difference between the cost and the sale price and multiply that difference by the total number of stereos.

$$25 \times 5 = 125, \$80 - \$30 = \$50, 125 \times \$50 = \$6,250 \text{ profit}$$

Short Answer

Micah borrows  $27,500 - 3,200$  for each car, so 24,300. Take this amount two times to get \$48,600.

Short Answer

Take the total sales amount divided by the sale price and then divide by the number of days in the week.

$$\frac{\$11130}{\$6} = \frac{\$1855}{7} = 265$$

Short Answer

The average attendance would be the total season attendance, 453,500, divided by the 25 home games.  $\frac{453500}{25} = 18,140$ .

The revenue for a sellout game would be the total capacity times the ticket price.  $19,580 \times 180 = 3,524,400$ .

Short Answer

$$12,484 + 14,000,008 + 11,622 = 14,024,114$$

Short Answer

Eight million, seven hundred thirty-two thousand, six hundred forty-nine.

Express each digit in the number separately with its correct place value

Short Answer

70. The 5 in the 65 forces the nearest 10 to 70

Short Answer

700. 686 is closer to 700 than to 600

Short Answer

7,000. 7,108 is closer to 7,000 than to 8,000

Short Answer

The 5 to the right of the 1 forces the 1 to round up to a 2, since 15,915 is closer to 20,000 than to 10,000.

Short Answer

- A. The estimate, rounded all the way, equals  $2,000 + 4,000 + 7,000$ .
- B. The actual resulting sum is 12,599.
- C. which is closer to 13,000 than to 12,000, as noted in the estimate.

Short Answer

- A. The estimate, rounded all the way, equals 3,000,000, which is the result of  $5,000 \times 600$ .
- B. The actual resulting sum is 3,156,890 which is close to the estimate 3,000,000.

Short Answer

629,510,000.

Attach three 0s to 629,510.

Short Answer

16,192 divided by 58 is 279 with 10 left over

Short Answer

Discard the common zero and divide 150 by 50 to get 30

Short Answer

\$27.

Multiply the five by 100 to get \$500 and then subtract \$473

Short Answer

Yes, he can afford the payments.

Add the amount borrowed and the interest charge to get  $\$19,500 + \$2,500 = \$22,000$ . Divide by 36 to get \$611.11. Since this is less than \$650, he can afford the payments.

Short Answer

11 houses. Remove the three common zeros and divide 66 by 6

Short Answer

Set up the blueprint to show the facts, the average, the steps, and the key points.

| The facts                       | Solving for?                 | Steps to Take                                                     | Key points                                                        |
|---------------------------------|------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------|
| 1. Oil filled 12 times per year | Average monthly heating bill | Total gallons used times cost per gallon equals total cost of oil | Average monthly bill is total cost divided by 12 months in a year |
| 2. Tank holds 300 gallon        |                              |                                                                   |                                                                   |
| 3. \$3 per gallon               |                              |                                                                   |                                                                   |

Calculate total gallons used:  $300 \times 12 = 3,600$

Calculate total cost of oil:  $3,600 \text{ gallon} \times 3 = \$10,800$

Calculate average monthly bill:  $\frac{\$10,800}{12} = \$900$

Short Answer

18,165. Express each digit in the number separately with its correct place value

Short Answer

2,038,503. Express each digit in the number separately with its correct place value

Short Answer

100. Since 5 is to the right of 9, round the 9 up to a 10, so answer will be 100

Short Answer

1,800. The digit in the hundreds place is an 8. The digit to the right of this is a 4. Keep the 8 the same, and make all digits to the right of it zeros.

Short Answer

2,000. 2,499 is closer to 2,000 than to 3,000

Short Answer

80. 84 is closer to 80 than to 90

Short Answer

700. 671 is closer to 700 than to 600

Short Answer

7,000. 6,752 is closer to 7,000 than to 6,000

Short Answer

4,918 rounds to 5,000 and 6,500 rounds to 7,000 because of the 5 in the hundreds place.  $5,000 + 7,000 = 12,000$

Short Answer

9,100 rounds to 9,000 and 8,555 rounds to 9,000. This adds up to 18,000.

Short Answer

3,342 rounds to 3,000, and 9,581 rounds to 10,000. This adds up to 13,000

Short Answer

2,944 rounds to 3,000 and 7,653 rounds to 8,000. This adds up to 11,000.

Short Answer

30,510. Subtract 1,472 from 31,982

Short Answer

1060. Subtract 890 from 1,950

Short Answer

1,056. Subtract 39 from 1,095.

Short Answer

550. 9,438 minus 8,888 is 550

Short Answer

3,400,000. Change the decimal to a comma; add 0s and commas so the whole number indicates millions.

Short Answer

18,250,000. Change the decimal to a comma; add 0s and commas so the whole number indicates millions.

Short Answer

525000000.

Attach six 0s to 525

Short Answer

16500000.

Attach four 0s to 1,650

Short Answer

16500000.

Remove three 0s from 160,000

Short Answer

160.

19. Remove four 0s from 190,000

Short Answer

1,800. Remove two 0s from 180,000

Short Answer

165. Remove three 0s from 165,000

Short Answer

34 R 20.

{MISSING IMAGE}

191  $\times$  34 equals 764 plus 5,730 equals 6,494 + 20 equals 6,514

Short Answer

48 R 102.

{MISSING IMAGE}

132  $\times$  48 equals 1,056 plus 5,280 equals 6,336 + 102 equals 6,438

Short Answer

A. 300 {MISSING IMAGE}

B. 332 R8 {MISSING IMAGE}

Short Answer

800 10) 8,000

686R9 12) 8,241 72 104 96 81  
72 9

Short Answer

Find the total number by adding 30 to the number hired and then subtracting the number who retired.

$$30 + 3 = 33 - 7 = 26$$

Short Answer

6,200. Take the total rental cost and divide by 6.

Short Answer

30,000,000. Find the total number of homes by multiplying the number of homes per state by the number of states in the project. Then multiply that total by the estimated cost to build each home

Short Answer

1. No, Cho cannot afford the van, which costs \$50 per month too much. Add the amount borrowed and the interest charge and divide that total by 24. Determine if that amount is less than \$700.
2. Actual monthly payment =  $\$18,000 \div 24 = \$750$

Short Answer

Find the difference between the purchase price \$80 and the sales price \$50 and multiply by the number purchased 200. Profit =  $(80 - 50) \times 200 = 30 \times 200 = \$6,000$

Short Answer

The original selling price is irrelevant. Subtract the sales price from the amount handed to the clerk.  $\$100 - \$7 = \$93$

Short Answer

Divide the total miles driven by the number of gallons held in the tank.

$$\frac{1064}{28} = 38 \text{ miles per gallon (mpg)}$$

Short Answer

Divide the total sales earnings, \$101,250 by average commission per unit, \$3,750.

$$\frac{\$101,250}{\$3,750} = 27$$

Short Answer

Divide the total royalties earned by the number of authors.

$$\frac{\$9,936}{3} = \$3,312$$

Short Answer

\$3,456; \$288

$$144 \times 12 = 1,728 \times \$2 = \$3,456; \frac{3456}{12} = \$288 \text{ per month}$$

Short Answer

$$17,200 - 3,290 = 13,910$$

You must subtract the number of visitors in 2020 from the number of visitors in 2021 to find the difference.

Short Answer

$$\$1,000 - 443 = \$557$$

Short Answer

18,900. The digit to the right of 9 is less than 5. Therefore, you do not change the identified digit (9) and you change all digits to the right of the rounded identified digit to 0s.

Short Answer

$$\$3 - \$2 = \$1 \times 20 = \$20; \text{ OR}$$

$$\text{California Cost: } \$3 \times 20 = \$60; \text{ Florida Cost: } \$2 \times 20 = \$40; \$60 - \$40 = \$20$$

Short Answer

$$\text{Price Purchased} = \$38 \times 100 = \$3,800; \text{ Price Sold} = \$50 \times 100 = \$5,000; \text{ Total Gain} = \$5,000 - \$3,800 = \$1,200$$

Short Answer

Take  $23 \times 3 = 69$ . Then, add the four 0s (two from each number) to the end of the product.  
690,000

Short Answer

The number 32,178 rounds to 30,000, since the 2 to the right of the 3 is less than 5. The number 18,992 rounds to 20,000, since the 8 to the right of the 1 is 5 or more.  $30,000 + 20,000 = 50,000$

Short Answer

236,000. The digit 5 is in the thousands place. The digit to the right of it is a 7. Since this is 5 or greater, add 1 to the digit in the thousands place, making it a 6, keep the digits to the left of the 6 the same, and turn all digits to the right of the 6 into 0s.

Short Answer

160,000. The digit 5 is in the ten thousands place. The digit to the right of it is a 9. Since this is 5 or greater, add 1 to the digit in the ten thousands place, making it a 6, keep the digits to the left of the 6 the same, and turn all digits to the right of the 6 into 0s.

Short Answer

The digit in the ten thousands place is a 7. To the right of it is a 5. Add 1 to the 7, keep all numbers to the left of it the same, and change all numbers to the right of it into 0s. The answer is 2,480,000.