

SHAQ #1

Short-Answer Questions

1. Two students were trying to answer this question:

A box can hold 6 rare coins. How many boxes are needed to hold 19 coins?

$$\begin{array}{r} 3 \\ 6 \overline{)19} \\ \underline{18} \\ 1 \end{array}$$

Maria reasoned that it will take 3 boxes because the answer to the division problem is $3\frac{1}{6}$, which rounds to 3.

Keith says it will take 4 boxes.

Which student is correct? Explain your reasoning?

2. Tammy wants to buy a coat that regularly sells for \$59.95. It is now on sale for 25% off. To estimate the sales price, she uses these four steps:

1. Round \$59.95 to \$60.
2. Think $\frac{1}{4}$ instead of 25%.
3. Divide: $60 \div \underline{\hspace{2cm}}$
4. Subtract $60 - 15$. A good estimate of the sales price is \$45.

Write the information missing in step 3.

Two students are trying to get a very accurate estimate for 74×32 .

Write each answer in the box at the right .

3. Alex reasons that if he rounds one number up, his estimated answer will be too large. He decides to round one of the numbers up and the other number down, both to the nearest 10. He rounds 74 *up* to 80 and 32 *down* to 30.

4. Bonnie reasons that both numbers should be rounded to the nearest 10.

5. Calculate the exact product of 74 and 32.

Answer

6. Whose estimate is closer to the accurate answer?

7. When asked to help a student which method would you tell? Explain

8. Think about how you would estimate the solution to the following problem:

15% of a class of 63 students wear glasses.

Dean has figured out a way to estimate this problem. Explain why this method works.

1. Find 10% of 60. Answer: 6
2. Take half of that number. Answer: 3
3. Add the two numbers. Answer: 9

9. Wilma wants to know how much she can expect to make for a whole year if she knows her hourly wages. Wilma said an easy way to estimate is to double your hourly rate and add 3 zeroes. So, a person who earns \$7 per hour would earn about \$14,000 per year. Explain why this method is a reasonable estimate. *There are 52 weeks in a year and 40 hours in the usual work week.*