

Smart Math Moves

Choose a useful method, then solve.

GRADE 7 • TEKS 7.1.C

7.1.C "select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;"

NAME _____

DATE _____

PICK A METHOD

Choose a method that matches the numbers and the question. Use mental math when numbers combine easily, estimation when an approximate answer is enough, and paper and pencil when you need an exact answer with less friendly numbers. Estimate first when it can help you check whether an exact answer makes sense.

WORKED EXAMPLE

Find $18.75 + 6.25$. Choose an efficient technique.

1. Pair the decimal parts: $0.75 + 0.25 = 1$.
2. Add the whole-number parts: $18 + 6 + 1 = 25$.
3. Mental math is efficient because the decimal parts make a whole.

Answer: mental math; 25

PRACTICE 6 problems

- 1** Choose the best technique, mental math, estimation, or paper and pencil. Then find $398 + 207$.

ANSWER _____

- 2** Estimate 49.8×6.1 by rounding each factor to the nearest whole number.

ANSWER _____

- 3** Which is more efficient for finding 7.36×28 , mental math or paper and pencil? Find the product.

ANSWER _____

- 4** Use number sense to find $7/8 + 5/8$. Write the answer as a mixed number.

ANSWER _____

- 5** Choose a useful technique and find $624 \div 16$.

ANSWER _____

- 6** Estimate 0.49×203 by rounding both factors to easy numbers.

ANSWER _____

APPLY IT Show your work

- 1** A music festival ticket costs \$14.50. Your group buys 36 tickets. Choose a tool or technique that gives an exact total cost. What is the total?

WORK SPACE

ANSWER _____

- 2** A game costs \$22.95, and an add-on costs \$17.49. You have \$48. Choose an efficient technique to decide whether you have enough money without finding the exact total. Explain.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A game compares two score boosts: 19.8×15.2 points and 21.1×14.7 points. Use estimation to predict which is larger, then calculate exactly and explain which score boost wins.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Choose the best technique, mental math, estimation, or paper and pencil. Then find $398 + 207$.	mental math; 605
2	Estimate 49.8×6.1 by rounding each factor to the nearest whole number.	about 300
3	Which is more efficient for finding 7.36×28 , mental math or paper and pencil? Find the product.	paper and pencil; 206.08
4	Use number sense to find $7/8 + 5/8$. Write the answer as a mixed number.	1 1/2
5	Choose a useful technique and find $624 \div 16$.	mental math; 39
6	Estimate 0.49×203 by rounding both factors to easy numbers.	about 100

PART 2 • APPLY IT

- paper and pencil or calculator; \$522.00** Multiply 14.50 by 36. The total is \$522.00.
- estimation; about \$40, so yes, you have enough money** Round the prices to \$23 and \$17. Their estimated sum is \$40, which is less than \$48.

CHALLENGE

Estimation predicts the second score boost because 20×15 is about 300 and 21×15 is about 315. Exactly, $19.8 \times 15.2 = 300.96$ and $21.1 \times 14.7 = 310.17$, so the second score boost wins.

Accept any valid efficient method when a problem asks students to choose one. Accept 1.5 as an equivalent form of $1 \frac{1}{2}$.