LESSON MAKER PRO

Choose Smart Methods

Match each problem to an efficient way to solve it.

GRADE 8 · TEKS 8.1.C

8.1.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 THE RIGHT METHOD

First decide whether you need an exact answer or a reasonable estimate. Use mental math when numbers are friendly or when you can break apart a percent or decimal. Use paper-and-pencil when several steps, unlike fractions, or careful decimal places make mental math less reliable.

WORKED EXAMPLE

Find 25% of 48. Choose an efficient technique.

1. 25% = 1/4.
2. 48 / 4 = 12.
3. Mental math is efficient because finding one fourth is quick.

Answer: 12; mental math

PRACTICE 6 problems

1 Find 398 + 67 + 2. Write the answer and the best technique: mental math, estimation, or paper-and-pencil.

ANSWER _____

2 Estimate 19.8 × 4.1 by rounding each factor to the nearest whole number. Write the estimate and the best technique.

ANSWER _____

3 Find 3/7 + 2/5. Write the answer in simplest form and the best technique.

ANSWER _____

4 Find -17.6 - 8.95. Write the answer and the best technique.

ANSWER _____

5 Find 15% of 240. Write the answer and the best technique.

ANSWER _____

6 Find 7.2 / 0.3. Write the answer and the best technique.

ANSWER _____

APPLY IT Show your work

1 A game costs $18. A store takes 15% off the price, then adds a $4.50 service fee. Choose an efficient method and find the final cost.

WORK SPACE

ANSWER _____

2 A gaming club collected $250 for a tournament. The club must pay $86.75 for room rental, $39.60 for snacks, and $124.50 for prize cards. Make a quick estimate first, then calculate exactly. Does the club have enough money, and how much is left or needed?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Without a calculator, decide which is greater: 35% of 280 or 7/10 of 136. Name an efficient technique and explain how much greater it is.

WORK SPACE AND ANSWER

ANSWER KEY

Choose Smart Methods

GRADE 8 · TEKS 8.1.C

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find 398 + 67 + 2. Write the answer and the best technique: mental math, estimation, or paper-and-pencil.	**467; mental math**
2	Estimate 19.8 × 4.1 by rounding each factor to the nearest whole number. Write the estimate and the best technique.	**80; estimation**
3	Find 3/7 + 2/5. Write the answer in simplest form and the best technique.	**29/35; paper-and-pencil**
4	Find -17.6 - 8.95. Write the answer and the best technique.	**-26.55; paper-and-pencil**
5	Find 15% of 240. Write the answer and the best technique.	**36; mental math**
6	Find 7.2 / 0.3. Write the answer and the best technique.	**24; mental math**

PART 2 · APPLY IT

1. **$19.80; mental math** Find 15% of $18, which is $2.70. Subtract the discount, then add the $4.50 fee.
2. **The club is $0.85 short; paper-and-pencil after estimating.** An estimate is about $252, so the total may be over $250. The exact cost is $250.85, so the club needs $0.85 more.

CHALLENGE

35% of 280 is greater by 2.8. Mental math: 10% of 280 is 28, so 35% is 98; 7/10 of 136 is 95.2.

Accept equivalent correct forms, including $0.85 needed instead of $0.85 short. Accept another technique when it is efficient and the student gives a valid reason.