LESSON MAKER PRO

Close Enough?

Estimate first, then check if an answer makes sense.

GRADE 6 · 6.N.4.1

6.N.4.1 "Estimate solutions to problems with whole numbers, decimals, fractions, and mixed numbers, and use the estimates to assess the reasonableness of results in the context of the problem."

NAME _____ DATE _____

ESTIMATE AND CHECK

Round numbers or use nearby fractions that are easy to calculate with. Then compare your estimate with the given result. If they are far apart, the result may not make sense.

WORKED EXAMPLE

A banner needs 17.9 meters of trim at $2.10 per meter. A bill says $3.76. Estimate the cost and decide whether the bill makes sense.

1. Round 17.9 meters to 18 meters and $2.10 to $2 per meter.
2. Multiply: 18 × 2 = 36, so the cost is about $36.
3. $3.76 is much less than $36.

Answer: About $36. The $3.76 bill does not make sense.

PRACTICE 6 problems

1 Estimate 298 ÷ 6.1 by rounding 298 to 300 and 6.1 to 6. Is 5 a reasonable result?

ANSWER _____

2 Estimate 12.4 × 3.1 by rounding each number to the nearest whole number. Is 38.44 a reasonable result?

ANSWER _____

3 Estimate 4 7/8 × 11.2 by rounding each number to the nearest whole number. Is 5.46 a reasonable result?

ANSWER _____

4 Estimate 11/12 ÷ 1/4 by replacing 11/12 with 1. Is 11/3 a reasonable result?

ANSWER _____

5 Estimate 13 3/4 ÷ 3 1/2 by rounding each mixed number to the nearest whole number. Is 4 a reasonable result?

ANSWER _____

6 Estimate 7/8 × 19 by replacing 7/8 with 1 and 19 with 20. Is 2 a reasonable result?

ANSWER _____

APPLY IT Show your work

1 Six friends buy concert tickets for $14.75 each. Round the ticket price to the nearest dollar to estimate their total cost. Is a total of $88.50 reasonable?

WORK SPACE

ANSWER _____

2 A club has 16 1/4 meters of LED strip for costumes. Each costume needs 1 3/4 meters. Use 16 and 2 to estimate how many costumes the club can decorate. Is 90 costumes reasonable?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A game store has 19.6 meters of cable. Each custom controller needs 0.49 meter. Estimate using 20 ÷ 0.5. One student says the store can make 4 controllers; another says 40. Which claim is reasonable? Explain using your estimate.

WORK SPACE AND ANSWER

ANSWER KEY

Close Enough?

GRADE 6 · 6.N.4.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Estimate 298 ÷ 6.1 by rounding 298 to 300 and 6.1 to 6. Is 5 a reasonable result?	**50; no, 5 is much too small.**
2	Estimate 12.4 × 3.1 by rounding each number to the nearest whole number. Is 38.44 a reasonable result?	**36; yes, 38.44 is close to 36.**
3	Estimate 4 7/8 × 11.2 by rounding each number to the nearest whole number. Is 5.46 a reasonable result?	**55; no, 5.46 is much too small.**
4	Estimate 11/12 ÷ 1/4 by replacing 11/12 with 1. Is 11/3 a reasonable result?	**4; yes, 11/3 is close to 4.**
5	Estimate 13 3/4 ÷ 3 1/2 by rounding each mixed number to the nearest whole number. Is 4 a reasonable result?	**3 1/2; yes, 4 is close to 3 1/2.**
6	Estimate 7/8 × 19 by replacing 7/8 with 1 and 19 with 20. Is 2 a reasonable result?	**20; no, 2 is much too small.**

PART 2 · APPLY IT

1. **About $90; yes, $88.50 is reasonable.** Six tickets at about $15 each cost about $90. The given total is close to the estimate.
2. **About 8 costumes; no, 90 costumes is not reasonable.** Estimate 16 ÷ 2 = 8 costumes. Ninety is far greater than the estimate.

CHALLENGE

40 controllers is reasonable. The estimate is 20 ÷ 0.5 = 40, while 4 is much too small.

Accept equivalent forms of the estimates, such as 3.5 for 3 1/2. A reasonableness judgment should compare the given result with the estimate.