LESSON MAKER PRO

Close Enough?

Use nearby numbers to estimate products and check answers.

GRADE 5 · 5.NOS.D.13.a

5.NOS.D.13.a "Estimate products by reasoning about benchmark numbers and assess reasonableness of answers."

NAME _____ DATE _____

ESTIMATE AND CHECK

Replace each factor with a nearby number that is easy to multiply. Use that estimate to decide whether an answer is reasonable. An exact product should usually be close to your estimate, not ten times as large.

WORKED EXAMPLE

Is 1,247 a reasonable answer for 43 × 29?

1. 43 is close to 40, and 29 is close to 30.
2. Multiply the nearby numbers: 40 × 30 = 1,200.
3. 1,247 is close to 1,200.

Answer: Yes, 1,247 is reasonable.

PRACTICE 6 problems

1 Estimate 69 × 41 using 70 × 40.

ANSWER _____

2 Estimate 203 × 19 using 200 × 20.

ANSWER _____

3 Is 5,046 a reasonable answer for 87 × 58? Use 90 × 60 to explain.

ANSWER _____

4 Is 72,360 a reasonable answer for 18 × 402? Use 20 × 400 to explain.

ANSWER _____

5 Estimate 298 × 49 using 300 × 50.

ANSWER _____

6 A student estimates 151 × 38 as 600. Use 150 × 40 to find a better estimate.

ANSWER _____

APPLY IT Show your work

1 A class plans to fill 97 prize bags with 22 stickers in each bag. Estimate how many stickers they need using 100 × 20. Is 2,134 stickers a reasonable total?

WORK SPACE

ANSWER _____

2 An online game awards 61 points for each of 49 completed levels. A player says the total is 29,890 points. Estimate using 60 × 50. Is the player's total reasonable?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Two students give 5,643 and 56,430 as answers for 297 × 19. Use 300 × 20 to decide which answer is reasonable. Explain your choice, then find the exact product to check.

WORK SPACE AND ANSWER

ANSWER KEY

Close Enough?

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Estimate 69 × 41 using 70 × 40.	**2,800**
2	Estimate 203 × 19 using 200 × 20.	**4,000**
3	Is 5,046 a reasonable answer for 87 × 58? Use 90 × 60 to explain.	**Yes. 90 × 60 = 5,400, which is close to 5,046.**
4	Is 72,360 a reasonable answer for 18 × 402? Use 20 × 400 to explain.	**No. 20 × 400 = 8,000, much less than 72,360.**
5	Estimate 298 × 49 using 300 × 50.	**15,000**
6	A student estimates 151 × 38 as 600. Use 150 × 40 to find a better estimate.	**6,000**

PART 2 · APPLY IT

1. **About 2,000 stickers. Yes, 2,134 is reasonable.** 100 × 20 = 2,000, which is close to 2,134. The exact product is 97 × 22 = 2,134.
2. **About 3,000 points. No, 29,890 is not reasonable.** 60 × 50 = 3,000, far less than 29,890. The exact product is 61 × 49 = 2,989.

CHALLENGE

300 × 20 = 6,000, so 5,643 is reasonable and 56,430 is much too large. The exact product is 297 × 19 = 5,643.

Accept explanations that compare the given answer with the stated benchmark product. Estimates are not expected to equal the exact products.