LESSON MAKER PRO

Product Sense

Estimate products and check whether results make sense.

GRADE 4 · 4.N.2.3

4.N.2.3 "Estimate products of 3-digit by 1-digit and 2-digit by 2-digit whole number factors using a variety of strategies (e.g., rounding, front end estimation, adjusting, compatible numbers) to assess the reasonableness of results..."

NAME _____ DATE _____

ESTIMATE, THEN CHECK

Round one or both factors to numbers that are easier to multiply. You can also use a nearby compatible number, such as 200 instead of 198. Compare your estimate with a given result to decide if that result is reasonable.

WORKED EXAMPLE

Estimate 346 x 9 by rounding 346 to the nearest ten. Is 3,114 a reasonable result?

1. Round 346 to 350.
2. Multiply 350 x 9 = 3,150.
3. 3,114 is close to 3,150.

Answer: About 3,150; yes, 3,114 is reasonable.

PRACTICE 6 problems

1 Estimate 263 x 4. Round 263 to the nearest ten first.

ANSWER _____

2 Estimate 718 x 3. Round 718 to the nearest hundred first.

ANSWER _____

3 Estimate 42 x 19. Round both factors to the nearest ten first.

ANSWER _____

4 Estimate 67 x 31. Round both factors to the nearest ten first.

ANSWER _____

5 Estimate 198 x 5. Use 200 as a compatible number for 198.

ANSWER _____

6 Estimate 58 x 24 using front-end estimation. Replace each factor with its tens value.

ANSWER _____

APPLY IT Show your work

1 At a school game day, 126 students each get 7 tickets. A teacher says the school gave out 882 tickets. Round 126 to the nearest ten to estimate the total. Is the teacher's number reasonable?

WORK SPACE

ANSWER _____

2 A card shop has 29 packs with 42 cards in each pack. A sign says there are 2,218 cards in the packs. Round both factors to the nearest ten to estimate the total. Is the sign's number reasonable?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Ava estimates 47 x 24 as 40 x 20 = 800. Ben estimates it as 50 x 20 = 1,000. Which estimate is closer to the exact product? Show how you know.

WORK SPACE AND ANSWER

ANSWER KEY

Product Sense

GRADE 4 · 4.N.2.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Estimate 263 x 4. Round 263 to the nearest ten first.	**About 1,040**
2	Estimate 718 x 3. Round 718 to the nearest hundred first.	**About 2,100**
3	Estimate 42 x 19. Round both factors to the nearest ten first.	**About 800**
4	Estimate 67 x 31. Round both factors to the nearest ten first.	**About 2,100**
5	Estimate 198 x 5. Use 200 as a compatible number for 198.	**About 1,000**
6	Estimate 58 x 24 using front-end estimation. Replace each factor with its tens value.	**About 1,000**

PART 2 · APPLY IT

1. **About 910 tickets; yes, 882 is reasonable.** Round 126 to 130, then multiply 130 x 7 = 910. Since 882 is close to 910, the teacher's number is reasonable.
2. **About 1,200 cards; no, 2,218 is not reasonable.** Round 29 to 30 and 42 to 40, then multiply 30 x 40 = 1,200. The sign's number is much greater than the estimate.

CHALLENGE

Ben's estimate is closer. The exact product is 1,128, which is 128 away from 1,000 and 328 away from 800.

For problems that specify a method, expect the listed estimate. For the word problems, accept other sensible estimates when the student's reasoning supports the correct judgment.