

Smart Math Tools

Choose a useful tool, solve, and check.

GRADES K-12 • Practice.MP5

CCSS.Math.Practice.MP5 "Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator..."

NAME _____

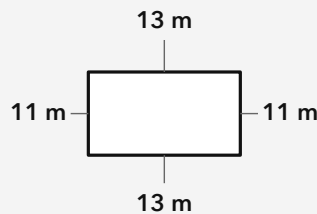
DATE _____

PICK THE RIGHT TOOL

Use a tool that matches the question. A diagram or data display can organize what you know, and pencil and paper can show your calculations. Estimate or use a second method to check that your answer makes sense.

WORKED EXAMPLE

A school garden needs a border. Use the labels on the rectangle to find the border length. Which tool is more useful, the labels or a ruler?



1. Read the side labels instead of measuring with a ruler.
2. Add all four sides: $13 + 11 + 13 + 11$.
3. Check with $2 \times (13 + 11) = 48$.

Answer: The labels are more useful. The border length is 48 m.

PRACTICE 4 problems

- 1** A snack team puts 6 bags of 7 apples into a cooler. Choose a quick paper method, find the total, and check it with a second method.

ANSWER _____

- 2** The art room has 4 packs of 12 markers. Three markers are dried out. Plan two operations, then decide whether 45 working markers is reasonable.

ANSWER _____

- 3** A runner walks 375 m, then 228 m. First estimate by rounding each distance to the nearest hundred. Then add exactly.

ANSWER _____

- 4** A game club buys 5 prizes that cost \$7 each. The club has \$40. Use a written calculation, not a ruler, to find the change. Check by adding the cost and change.

ANSWER _____

APPLY IT Show your work

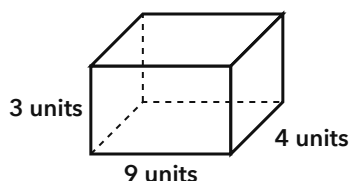
- 1** The student council will plan activities using the sign-up graph. Which activity has the most sign-ups, and how many more sign-ups does it have than the activity with the fewest? Use subtraction to check the comparison.

ACTIVITY SIGN-UPS



ANSWER _____

- 2** The robotics club fills a rectangular storage box measuring 9 units long, 4 units wide and 3 units high with cubes of volume 1 cubic unit. Use the labeled box model to plan a multiplication, then check with repeated addition. How many cubes fit?

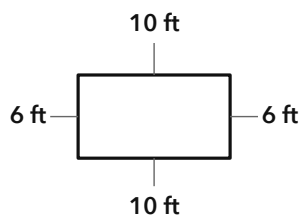


ANSWER _____

CHALLENGE

One step up

A stage crew uses the rectangular panel shown. Lee says its perimeter is 34 ft and its area is 60 square feet. Check both claims. Explain which claim is correct.



WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A snack team puts 6 bags of 7 apples into a cooler. Choose a quick paper method, find the total, and check it with a second method.	$6 \times 7 = 42$ apples. An array check also shows 42.
2	The art room has 4 packs of 12 markers. Three markers are dried out. Plan two operations, then decide whether 45 working markers is reasonable.	$4 \times 12 - 3 = 45$ working markers. Yes, 45 is reasonable because 4×12 is 48.
3	A runner walks 375 m, then 228 m. First estimate by rounding each distance to the nearest hundred. Then add exactly.	Estimate: $400 + 200 = 600$ m. Exact distance: $375 + 228 = 603$ m.
4	A game club buys 5 prizes that cost \$7 each. The club has \$40. Use a written calculation, not a ruler, to find the change. Check by adding the cost and change.	$5 \times 7 = \\$35$, so the change is \$5. Check: $\\$35 + \\$5 = \\$40$.

PART 2 • APPLY IT

- Coding has the most sign-ups. It has 13 more sign-ups than Art.** Read the largest and smallest bars. Compute $24 - 11 = 13$.
- 108 cubes** Find one layer: $9 \times 4 = 36$ cubes. Three layers give $36 + 36 + 36 = 108$ cubes.

CHALLENGE

The area claim is correct because $10 \times 6 = 60$ square feet. The perimeter is $10 + 6 + 10 + 6 = 32$ ft, not 34 ft.

Accept equivalent paper methods, including arrays, repeated addition, or multiplication. For explanations, accept a clear check that uses the correct values and operations.