LESSON MAKER PRO

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..."

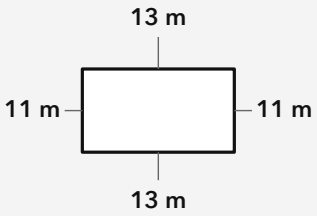
NAME _____ DATE _____

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 x (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.

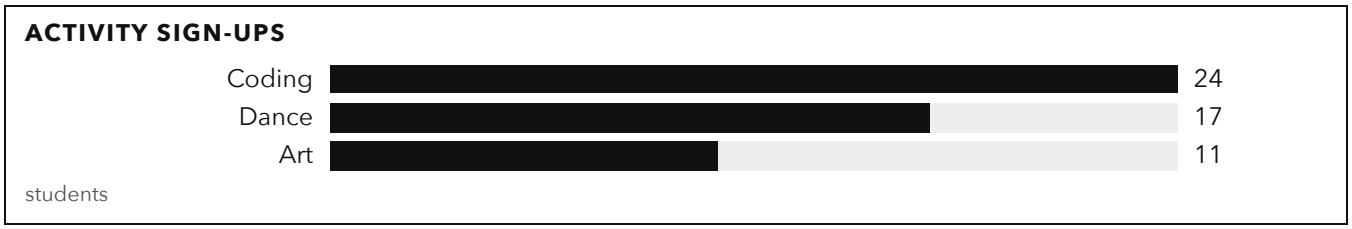
ANSWER _____

4 Five prizes cost $7 each; the club has $40. Choose counters, paper calculation or a calculator. Actually use your choice to find the change. State why it helps, check the result another way, and name one limitation of your tool.

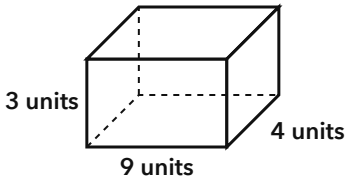
ANSWER _____

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.

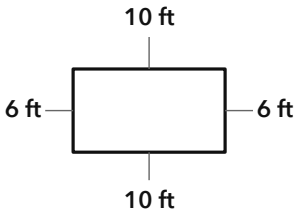


2 The robotics club fills a rectangular storage box measuring 9 units long, 4 units wide and 3 units high with cubes of volume 1 cubic unit. Use the labeled box model to plan a multiplication, then check with repeated addition. How many cubes fit?



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.



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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 x 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 x 12 - 3 = 45 working markers. Yes, 45 is reasonable because 4 x 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	Five prizes cost $7 each; the club has $40. Choose counters, paper calculation or a calculator. Actually use your choice to find the change. State why it helps, check the result another way, and name one limitation of your tool.	**Cost $35, change $5; check 35+5=40 or estimate 5×7 near 5×8=40. Choices/reasons vary: calculator is quick but wrong entries produce wrong results; counters show groups but many counters are slow; paper records work but arithmetic can be mistaken.**

PART 2 · APPLY IT

1. **Coding has the most sign-ups. It has 13 more sign-ups than Art.** Read the largest and smallest bars. Compute 24 - 11 = 13.
2. **108 cubes** Find one layer: 9 x 4 = 36 cubes. Three layers give 36 + 36 + 36 = 108 cubes.

CHALLENGE

The area claim is correct because 10 x 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. Provide counters, paper/pencil and a calculator for problem 4. Require evidence of actual tool use, a reason suited to the problem, a distinct check and a real limitation. Several tool choices can be strategically sound.