LESSON MAKER PRO

Toolbox Math Moves

Choose a tool, solve, and check.

GRADE 6 · 6.MP.5

6.MP.5 "Use appropriate tools strategically."

NAME _____ DATE _____

PICK THE BEST TOOL

Before you calculate, choose a tool that makes the quantities easy to organize. Use multiplication for equal groups, counting up for time or change, and common denominators for fraction differences. Check by estimating or reversing an operation.

WORKED EXAMPLE

Nia earned $19.40 at a pet-sitting job and spent $7.25. Choose a useful tool to find how much money she has left.

1. Use counting up to subtract.
2. Count from $7.25 to $10.00: $2.75.
3. Count from $10.00 to $19.40: $9.40.
4. Add $2.75 + $9.40 = $12.15.

Answer: Nia has $12.15 left.

PRACTICE 5 problems

1 At rehearsal, 7 groups need 9 lyric sheets each. Choose a useful tool. How many sheets are needed? Check whether your answer is reasonable.

ANSWER _____

2 A video starts at 2:26 p.m. and ends at 3:51 p.m. Choose a useful tool and find the elapsed time. Check by adding your time to the start time.

ANSWER _____

3 A team needs 175 points to unlock a game feature. It has 92 points. Choose a useful tool and find how many more points it needs. Check your result.

ANSWER _____

4 A skateboard ramp needs 5/6 gallon of paint. Malik has 1/4 gallon. Choose a useful tool and find how much more paint he needs. Check that the amount makes sense.

ANSWER _____

5 Rina practices a dance routine for 35 minutes on each of 4 days. Her weekly goal is 150 minutes. Choose a useful tool. Does she meet her goal, and by how much?

ANSWER _____

_____

APPLY IT Show your work

1 The robotics club has $62.40 from a snack sale. It buys 3 batteries at $14.85 each. Choose a tool, find the money left, and check by adding the spending and the amount left.

WORK SPACE

ANSWER _____

2 For a charity walk, Lena completes 5 laps of a 2 3/4-mile route. Her goal is 14 miles. Choose a tool. Does she reach her goal, and how far above or below is she?

WORK SPACE

ANSWER _____

CHALLENGE One step up

The media club needs at least 58 earbuds. The club must buy all its packs from one shop; it cannot mix shops. Shop A sells packs of 8 for $6. Shop B sells packs of 10 for $8. Use a table or organized list to choose the plan with the lowest cost and the fewest extra earbuds. Explain your reasoning.

WORK SPACE AND ANSWER

ANSWER KEY

Toolbox Math Moves

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	At rehearsal, 7 groups need 9 lyric sheets each. Choose a useful tool. How many sheets are needed? Check whether your answer is reasonable.	**63 sheets. Use multiplication: 7 x 9 = 63. An estimate of 7 x 10 = 70 shows 63 is reasonable.**
2	A video starts at 2:26 p.m. and ends at 3:51 p.m. Choose a useful tool and find the elapsed time. Check by adding your time to the start time.	**1 hour 25 minutes. Count up from 2:26 to 3:51. Check: 2:26 + 1 hour 25 minutes = 3:51.**
3	A team needs 175 points to unlock a game feature. It has 92 points. Choose a useful tool and find how many more points it needs. Check your result.	**83 points. Subtract 175 - 92 = 83. Check: 92 + 83 = 175.**
4	A skateboard ramp needs 5/6 gallon of paint. Malik has 1/4 gallon. Choose a useful tool and find how much more paint he needs. Check that the amount makes sense.	**7/12 gallon. Use common denominators: 5/6 - 1/4 = 10/12 - 3/12 = 7/12. The answer is less than 5/6, so it makes sense.**
5	Rina practices a dance routine for 35 minutes on each of 4 days. Her weekly goal is 150 minutes. Choose a useful tool. Does she meet her goal, and by how much?	**She practices 140 minutes and is 10 minutes under her goal. Multiply 4 x 35 = 140, and 150 - 140 = 10.**

PART 2 · APPLY IT

1. **$17.85 is left. Use multiplication and subtraction: 3 x $14.85 = $44.55, and $62.40 - $44.55 = $17.85. Check: $44.55 + $17.85 = $62.40.** Multiply to find the battery cost, then subtract from the club's money. Check with addition.
2. **Lena is 1/4 mile below her goal. Multiply 5 x 2 3/4 = 13 3/4 miles, and 14 - 13 3/4 = 1/4 mile.** Multiply the lap length by 5, then compare the total with 14 miles.

CHALLENGE

Choose Shop B. Shop A needs 8 packs, for 64 earbuds and $48, with 6 extra. Shop B needs 6 packs, for 60 earbuds and $48, with 2 extra. Both cost $48, but Shop B has fewer extra earbuds.

Accept any appropriate tool if the computation and check are correct. Accept equivalent fraction reasoning for 7/12, but require Shop B under the stated one-shop constraint in the challenge because both choices cost the same and Shop B has fewer extras.