

Tool Choice Lab

Pick a tool, solve, and check.

GRADE 7 • 7.MP.5

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

NAME _____

DATE _____

CHOOSE WISELY

First, choose a tool that makes the quantities easy to see, such as a table, an equation, a number line, or mental math. Then check your result by reversing an operation, substituting, or estimating.

WORKED EXAMPLE

At a game booth, 18 tokens buy 3 prizes. At the same rate, how many tokens buy 4 prizes?

1. Use a ratio table: 18 tokens / 3 prizes = 6 tokens per prize.
2. Multiply: $6 \times 4 = 24$ tokens.
3. Check: $24 / 4 = 6$ tokens per prize.

Answer: 24 tokens

PRACTICE 5 problems

- 1** Choose a useful tool, solve, and check. A playlist has 8 songs that last 16 minutes. At the same rate, how long will 11 songs last?

ANSWER _____

- 2** Choose a useful tool, solve, and check. Nia has 52 arcade tickets. Each game she wins adds 7 tickets. She needs 87 tickets for a keychain. How many games must she win?

ANSWER _____

- 3** Choose a useful tool, solve, and check. A \$50 hoodie is 20% off. What is the sale price?

ANSWER _____

- 4** Choose a useful tool, solve, and check. A school orders 9 boxes of 13 badges. The badges are shared equally among 9 team captains. How many badges does each captain get?

ANSWER _____

- 5** Choose a useful tool, solve, and check. A drone starts 12 meters below its launch level and rises 19 meters. Where is it compared with its launch level?

ANSWER _____

APPLY IT Show your work

- 1** Choose a useful tool, solve, and check. An esports club has 95 minutes for a tournament. Setup takes 15 minutes, and each match takes 8 minutes. How many full matches can the club play?

WORK SPACE

ANSWER _____

- 2** Choose a useful tool, solve, and check. Sam saves \$68 for a concert. The ticket costs \$45, and bus fare costs \$7 each way. How much money is left for a snack?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Explain your reasoning. A club compares poster-printing shops. Shop A charges a \$7 setup fee plus \$2 per poster. Shop B charges a \$22 setup fee plus \$1 per poster. How many posters make the costs equal? Which shop costs less for 17 posters?

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Choose a useful tool, solve, and check. A playlist has 8 songs that last 16 minutes. At the same rate, how long will 11 songs last?	22 minutes
2	Choose a useful tool, solve, and check. Nia has 52 arcade tickets. Each game she wins adds 7 tickets. She needs 87 tickets for a keychain. How many games must she win?	5 games
3	Choose a useful tool, solve, and check. A \$50 hoodie is 20% off. What is the sale price?	\$40
4	Choose a useful tool, solve, and check. A school orders 9 boxes of 13 badges. The badges are shared equally among 9 team captains. How many badges does each captain get?	13 badges
5	Choose a useful tool, solve, and check. A drone starts 12 meters below its launch level and rises 19 meters. Where is it compared with its launch level?	7 meters above its launch level

PART 2 • APPLY IT

1. **10 full matches** Use an equation or subtract setup time first: $95 - 15 = 80$, and $80 / 8 = 10$. Check that $15 + 10 \times 8 = 95$.
2. **\$9** Use an expression: $68 - 45 - 2 \times 7 = 9$. Check that $\$45 + \$14 + \$9 = \68 .

CHALLENGE

The costs are equal for 15 posters. For 17 posters, Shop A costs \$41 and Shop B costs \$39, so Shop B costs less by \$2.

Accept any reasonable tool if the work and check are correct. Equivalent equations, tables, number lines, and mental-math strategies are acceptable.