

Pick the Best Tool

Choose a tool, solve, and check.

GRADE 8 • 8.MP.5

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

NAME _____

DATE _____

TOOL CHOICE MATTERS

Before calculating, decide which tool shows the situation best. An equation can show an unknown, a table can compare choices, and an estimate can check whether an answer makes sense.

WORKED EXAMPLE

The art club orders 5 paint sets for \$9 each. Which tool is useful, and what is the total cost?

1. Use multiplication because each set has the same cost.
2. Write 5×9 .
3. Compute 45.

Answer: A multiplication expression is useful. The total is \$45.

PRACTICE 5 problems

- 1** A game store charges \$3 for each of 4 tournament entries and a \$2 registration fee. Choose a tool. What is the total cost?

ANSWER _____

- 2** Twenty-eight students form equal coding teams of 4. Choose a tool. How many teams are made?

ANSWER _____

- 3** A phone has 64 GB free. It saves files using 17 GB, 12 GB, and 8 GB. Choose a tool. How much space remains?

ANSWER _____

- 4** A runner completes 6 laps of $\frac{3}{4}$ mile each. Choose a tool. How far does the runner go?

ANSWER _____

- 5** A student wants \$114 after buying \$12 of supplies. They earn \$18 per lawn job. Choose a tool. How many jobs are needed?

ANSWER _____

APPLY IT Show your work

- 1** A music app offers Plan A, \$6 plus \$1.50 per song, or Plan B, \$12 plus \$0.75 per song. Use a table or equations. At how many songs are the plans equal? Which plan costs less for 12 songs?

WORK SPACE

ANSWER _____

- 2** You have \$24 saved for earbuds costing \$84. You earn \$10 per dog-walking job and spend \$6 on snacks before buying the earbuds. Use an equation. How many jobs are needed?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Bus rides cost \$2.50 each. A discount card costs \$15 plus \$1.25 per ride. At how many rides do both choices cost the same? Explain your tool and check your answer.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A game store charges \$3 for each of 4 tournament entries and a \$2 registration fee. Choose a tool. What is the total cost?	A numerical expression is useful: $4 \times 3 + 2 = 14$. Total cost: \$14.
2	Twenty-eight students form equal coding teams of 4. Choose a tool. How many teams are made?	Division is useful: $28 / 4 = 7$. There are 7 teams.
3	A phone has 64 GB free. It saves files using 17 GB, 12 GB, and 8 GB. Choose a tool. How much space remains?	A list and subtraction are useful: $64 - 17 - 12 - 8 = 27$. The phone has 27 GB free.
4	A runner completes 6 laps of $\frac{3}{4}$ mile each. Choose a tool. How far does the runner go?	Multiplication is useful: $6 \times \frac{3}{4} = \frac{18}{4} = 4 \frac{1}{2}$. The runner goes $4 \frac{1}{2}$ miles.
5	A student wants \$114 after buying \$12 of supplies. They earn \$18 per lawn job. Choose a tool. How many jobs are needed?	An equation is useful: $18x - 12 = 114$, so $x = 7$. The student needs 7 jobs.

PART 2 • APPLY IT

- The plans are equal at 8 songs. Plan B costs less for 12 songs.** Set $6 + 1.50x$ equal to $12 + 0.75x$ to get $x = 8$. For 12 songs, Plan A costs \$24 and Plan B costs \$21.
- 6 jobs** Write $24 + 10x - 6 = 84$. Solving gives $x = 6$.

CHALLENGE

12 rides. Use an equation: $2.50x = 15 + 1.25x$, so $1.25x = 15$ and $x = 12$. Check: both choices cost \$30.

Accept equivalent equations, tables, or organized lists when they correctly model the situation. Accept $4 \frac{1}{2}$ or $\frac{9}{2}$ miles for problem 4.