

Plan Check Solve

Use rates, plans, and checks.

GRADE 7 • 7.MP

7.MP "Display perseverance and patience in problem-solving. Demonstrate skills and strategies needed to succeed in mathematics, including critical thinking, reasoning, and effective collaboration and expression. Seek help and apply feedback..."

NAME _____

DATE _____

A RELIABLE PLAN

Read for the goal, name the quantities, and choose a plan, such as finding a unit rate or multiplying equal groups. Estimate before you calculate, then use the situation to check whether your answer makes sense and revise it if needed.

WORKED EXAMPLE

A video editor uses 1.5 GB for each of 6 clips. How much storage is used?

1. Plan: multiply clips by GB per clip.
2. $6 \times 1.5 = 9$.
3. Check: 9 is between 6×1 and 6×2 .

Answer: 9 GB

PRACTICE 5 problems

- 1** A design club buys 4 sticker sheets with 18 stickers on each sheet. Plan, solve, and check the total number of stickers.

ANSWER _____

- 2** A photo book has 3 pages with 8 photos on each page. How many photos fit on 7 pages at the same rate? Plan and check.

ANSWER _____

- 3** A bike ride covers 12 miles in 3 hours at a constant rate. How far will the rider travel in 5 hours? Show a plan and check.

ANSWER _____

- 4** A player needs 1,030 coins to unlock a game skin and has 280 coins. The player earns 150 coins per level for 5 levels. Will the player have enough coins? Explain with a check.

ANSWER _____

- 5** A school store charges \$40 for 5 hoodies. At the same price per hoodie, what is the cost of 7 hoodies? Plan and check.

ANSWER _____

APPLY IT Show your work

- 1** The dance committee pays \$56 for 8 tickets. At the same price per ticket, how much will 11 tickets cost? Show a plan and check whether your answer is reasonable.

WORK SPACE

ANSWER _____

- 2** A game rewards 21 gems for 3 completed quests. At the same rate, how many gems will a player earn for 10 quests? Explain your plan and check.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

An online art shop sells 15 prints for \$4.80 each. A student says the profit is \$72 because $15 \times \$4.80 = \72 . The shop paid \$18 for supplies. What is the profit? Explain why \$72 is not the profit.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A design club buys 4 sticker sheets with 18 stickers on each sheet. Plan, solve, and check the total number of stickers.	72 stickers
2	A photo book has 3 pages with 8 photos on each page. How many photos fit on 7 pages at the same rate? Plan and check.	56 photos
3	A bike ride covers 12 miles in 3 hours at a constant rate. How far will the rider travel in 5 hours? Show a plan and check.	20 miles
4	A player needs 1,030 coins to unlock a game skin and has 280 coins. The player earns 150 coins per level for 5 levels. Will the player have enough coins? Explain with a check.	Yes, 1,030 coins
5	A school store charges \$40 for 5 hoodies. At the same price per hoodie, what is the cost of 7 hoodies? Plan and check.	\$56

PART 2 • APPLY IT

1. **\$77** Divide \$56 by 8 to find \$7 per ticket. Then multiply $11 \times \$7 = \77 .
2. **70 gems** Divide 21 by 3 to find 7 gems per quest. Then multiply $7 \times 10 = 70$.

CHALLENGE

Profit is \$54. \$72 is revenue, so subtracting the \$18 supply cost gives \$54.

Accept any correct strategy, including a table, unit rate, equation, or equal-groups model. Students should show a reasonable estimate or situation-based check, and revise work if the check reveals an error.