

Plan Solve Check

Use models, equations, and checks to solve everyday problems.

GRADE 6 • TEKS 6.1

6.1 "Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: apply mathematics to problems arising in everyday life, society, and the workplace..."

NAME _____

DATE _____

A SMART PROBLEM-SOLVING PATH

First, identify what you need to find and choose a plan. Use an equation, table, or diagram to organize your work. Then check whether your answer is reasonable by estimating or using an inverse operation.

WORKED EXAMPLE

A club orders fabric for the rectangular banner shown. Fabric costs \$0.04 per square centimeter. What is the fabric cost?



1. Plan: Find the banner's area, then find the cost.
2. Area = $13 \times 17 = 221 \text{ cm}^2$.
3. Cost = $221 \times \$0.04 = \8.84 . A cost near \$11 is reasonable because \$0.04 is close to \$0.05.

Answer: \$8.84**PRACTICE** 4 problems

- 1** An arcade card has \$25. Each game costs \$3. After 6 games, how much money remains? Write an equation and a check.

ANSWER _____

- 2** A student has an 18-km walking goal. She walks 5 km on Monday and 7 km on Tuesday. How many kilometers are left? Show an equation and a check.

ANSWER _____

- 3** A robotics team needs 36 batteries. Packs hold 8 batteries and cost \$6 each. How many packs should the team buy, and what will it pay? Show a check.

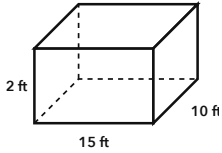
ANSWER _____

- 4** A music app charges \$15 for 3 months. At the same rate, what is the cost for 8 months? Show a ratio or equation and a check.

ANSWER _____

APPLY IT Show your work

- 1** Use the raised garden bed shown. It must be filled completely. Soil comes in 30-cubic-foot bags for \$11 each. How many bags are needed, and what is the total cost? Explain how you checked.



ANSWER _____

- 2** Use the bar graph. The snack booth has a \$200 earning goal. How much did it earn altogether, and how much more does it need? Show how you checked your total.

SNACK BOOTH EARNINGS

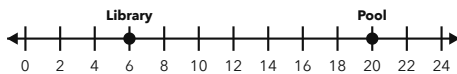


dollars

ANSWER _____

CHALLENGE One step up

The number line shows two places on a trail. Kai starts at Library, rides to Pool, then rides $\frac{3}{7}$ of that trip back toward Library. How far is Kai from Library? Explain how you checked.



WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	An arcade card has \$25. Each game costs \$3. After 6 games, how much money remains? Write an equation and a check.	$25 - 3(6) = 7$. Check: $3 \times 6 = 18$, and $25 - 18 = 7$.
2	A student has an 18-km walking goal. She walks 5 km on Monday and 7 km on Tuesday. How many kilometers are left? Show an equation and a check.	$18 - 5 - 7 = 6$ km. Check: $5 + 7 + 6 = 18$.
3	A robotics team needs 36 batteries. Packs hold 8 batteries and cost \$6 each. How many packs should the team buy, and what will it pay? Show a check.	5 packs, \$30. Check: $5 \times 8 = 40$ batteries, which is enough for 36.
4	A music app charges \$15 for 3 months. At the same rate, what is the cost for 8 months? Show a ratio or equation and a check.	\$40. Check: $\\$15 / 3 = \\5 per month, and $8 \times \\$5 = \\40.

PART 2 • APPLY IT

- 10 bags, \$110. Check: $15 \times 10 \times 2 = 300$ ft³, and $300 / 30 = 10$ bags.** Find the bed volume, $15 \times 10 \times 2 = 300$ cubic feet. Divide by 30 cubic feet per bag, then multiply 10 bags by \$11.
- \$150 altogether, \$50 more needed. Check: $35 + 42 + 28 + 45 = 150$, and $150 + 50 = 200$.** Add the four bar values to find \$150. Subtract \$150 from the \$200 goal.

CHALLENGE

8 km. Library to Pool is $20 - 6 = 14$ km. Kai rides back $3/7 \times 14 = 6$ km, so he is $14 - 6 = 8$ km from Library. Check: $8 + 6 = 14$ km.

Accept equivalent equations, organized tables, or labeled diagrams. Accept any valid estimate, inverse-operation check, or addition check that supports the answer.