

# Number Quest

*Estimate, solve, and explain whole-number stories.*

**GRADE 5 • 5.CE.1**

**5.CE.1** "The student will estimate, represent, solve, and justify solutions to single-step and multistep contextual problems using addition, subtraction, multiplication, and division with whole numbers. Estimate the sum, difference, product..."

NAME \_\_\_\_\_

DATE \_\_\_\_\_

## PLAN, SOLVE, CHECK

Estimate first by rounding numbers to a place that makes the math easier. Then use an equation or a standard algorithm to find the exact answer. In division, decide whether a remainder means items are left over or another group is needed.

## WORKED EXAMPLE

Each of 18 art tables needs 24 paintbrushes. Estimate and find the exact number of paintbrushes needed.

1. Round 18 to 20 and 24 to 20:  $20 \times 20 = 400$ .
2. Break apart 24:  $18 \times 20 = 360$  and  $18 \times 4 = 72$ .
3. Add:  $360 + 72 = 432$ .

**Answer: Estimate: about 400 paintbrushes. Exact answer: 432 paintbrushes.**

## PRACTICE 6 problems

- 1** Estimate  $347 + 286$  by rounding each number to the nearest hundred.

**ANSWER** \_\_\_\_\_

- 2** Find  $4,563 - 1,728$ .

**ANSWER** \_\_\_\_\_

- 3** Find  $37 \times 126$ .

**ANSWER** \_\_\_\_\_

- 4** Find  $936 \div 26$ .

**ANSWER** \_\_\_\_\_

- 5** Find  $1,275 \div 39$ . Write the quotient and remainder.

**ANSWER** \_\_\_\_\_

- 6** A sticker shop has 6 packs with 145 stickers in each pack. It gives away 238 stickers. Write an equation and find how many stickers are left.

**ANSWER** \_\_\_\_\_

## APPLY IT Show your work

- 1** The school library received 28 boxes of donated books. Each box has 34 books. After 175 books are set aside for repair, how many books can go on the shelves? Estimate first by rounding each number to the nearest ten. Then write an equation and solve exactly.

WORK SPACE

ANSWER \_\_\_\_\_

- 2** A gaming club needs to display all 1,438 trading cards. Each display case holds 32 cards. Estimate by rounding the number of cards and the number per case to the nearest ten. Then find how many display cases are needed.

WORK SPACE

ANSWER \_\_\_\_\_

## CHALLENGE One step up

### CHALLENGE

A concert booth has 3,358 glow bracelets. It puts 46 bracelets in each prize bag. A worker says the booth can fill 72 bags with no bracelets left. Is the worker correct? Explain with equations.

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## PART 1 • PRACTICE

| # | PROBLEM                                                                                                                                       | ANSWER                                                |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| 1 | Estimate $347 + 286$ by rounding each number to the nearest hundred.                                                                          | <b>600</b>                                            |
| 2 | Find $4,563 - 1,728$ .                                                                                                                        | <b>2,835</b>                                          |
| 3 | Find $37 \times 126$ .                                                                                                                        | <b>4,662</b>                                          |
| 4 | Find $936 \div 26$ .                                                                                                                          | <b>36</b>                                             |
| 5 | Find $1,275 \div 39$ . Write the quotient and remainder.                                                                                      | <b>32 R 27</b>                                        |
| 6 | A sticker shop has 6 packs with 145 stickers in each pack. It gives away 238 stickers. Write an equation and find how many stickers are left. | <b><math>6 \times 145 - 238 = 632</math> stickers</b> |

## PART 2 • APPLY IT

- Estimate: 720 books. Exact answer: 777 books.** Round to get  $30 \times 30 - 180 = 720$ . For the exact answer,  $28 \times 34 = 952$ , and  $952 - 175 = 777$ .
- Estimate: about 48 cases. Exact answer: 45 cases.** The estimate is  $1,440 \div 30 = 48$ . Exactly,  $1,438 \div 32 = 44 \text{ R } 30$ , so 45 cases are needed to hold the remaining 30 cards.

## CHALLENGE

**No.  $46 \times 72 = 3,312$ , and  $3,358 - 3,312 = 46$ . The booth can fill 73 bags with no bracelets left.**

Accept correct equations and standard-algorithm work. For estimates, accept 600 in Practice 1, 720 in Apply 1, and about 48 cases in Apply 2 when the stated rounding is used; require 45 cases because the remainder needs another case.