

Divide It Out

Estimate, solve, and check division stories.

GRADE 4 • 4.CE.2.j

4.CE.2.j "Estimate, represent, solve, and justify solutions to single-step contextual problems involving division with whole numbers."

NAME _____

DATE _____

DIVIDE EQUALLY

To share a total equally, divide the total by the number of groups. Estimate first with a nearby number that divides evenly, then solve and check by multiplying.

WORKED EXAMPLE

84 crayons are put into 7 equal cups. How many crayons go in each cup?

1. Estimate: 84 is a number that divides evenly by 7.
2. Write the equation: $84 \div 7 = 12$.
3. Check: $7 \times 12 = 84$.

Answer: 12 crayons in each cup

PRACTICE 6 problems

- 1** Estimate, then solve: $96 \div 3$

ANSWER _____

- 2** Use multiplication to check: $144 \div 6$

ANSWER _____

- 3** Write a division equation and solve. A baker puts 72 cookies equally on 9 trays. How many cookies are on each tray?

ANSWER _____

- 4** Estimate, then solve: $88 \div 4$

ANSWER _____

- 5** Solve and check. A game store packs 135 cards equally into 5 boxes. How many cards go in each box?

ANSWER _____

- 6** Estimate, then solve. Write any remainder: $218 \div 6$

ANSWER _____

APPLY IT Show your work

- 1** The school soccer club has 156 trading cards. The cards are shared equally among 4 teams. Estimate how many cards each team will get. Then solve and explain how you know your answer is reasonable.

WORK SPACE

ANSWER _____

- 2** A craft club has 173 beads. Each bracelet needs 8 beads. Estimate how many full bracelets the club can make. Then solve and tell how many beads are left.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A theater has 287 tickets to place equally into groups of 9 for a class activity. Estimate the number of full groups. Then find the exact number of full groups and leftover tickets. Explain why your estimate makes sense.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Estimate, then solve: $96 \div 3$	Estimate: $90 \div 3 = 30$; $96 \div 3 = 32$
2	Use multiplication to check: $144 \div 6$	24; check: $6 \times 24 = 144$
3	Write a division equation and solve. A baker puts 72 cookies equally on 9 trays. How many cookies are on each tray?	$72 \div 9 = 8$, so 8 cookies are on each tray.
4	Estimate, then solve: $88 \div 4$	Estimate: $80 \div 4 = 20$; $88 \div 4 = 22$
5	Solve and check. A game store packs 135 cards equally into 5 boxes. How many cards go in each box?	27 cards; check: $5 \times 27 = 135$
6	Estimate, then solve. Write any remainder: $218 \div 6$	Estimate: $216 \div 6 = 36$; $218 \div 6 = 36 \text{ R}2$

PART 2 • APPLY IT

- Estimate: $160 \div 4 = 40$. Each team gets 39 cards.** Divide 156 by 4 to get 39. The exact answer is close to the estimate of 40, so it is reasonable.
- Estimate: $176 \div 8 = 22$. The club can make 21 full bracelets with 5 beads left.** Divide 173 by 8. Since $8 \times 21 = 168$, there are 5 beads left.

CHALLENGE

Estimate: $288 \div 9 = 32$. Exact answer: 31 full groups with 8 tickets left, because $9 \times 31 = 279$ and $287 - 279 = 8$. The exact number is close to 32 because 287 is close to 288.

Accept reasonable compatible-number estimates that are close to the exact quotient. For division with remainders, accept an equivalent statement such as 36 remainder 2 or 36 R2.