

UNIT 3

STUDENT BOOK

7

LESSON

Estimating Quotients to Solve Problems



Quick Review

Here are some strategies you can use to estimate quotients.

- Estimate: $984 \div 5$

Look for **compatible numbers**.

984 is close to 1000.

1000 is 10 hundreds.

10 hundreds $\div 5 = 2$ hundreds
 $= 200$

$984 \div 5$ is about 200.

This is an overestimate because $1000 > 984$.

- Estimate: $364 \div 5$

Use front-end rounding.

$364 \div 5$ is about $300 \div 5$.

$30 \div 5 = 6$, so $300 \div 5 = 60$

The estimate is low.

To get a closer estimate, look at the first 2 digits of the dividend:

$364 \div 5$

$35 \div 5 = 7$, so $36 \div 5$ is close to 7.

So, $364 \div 5$ is about $350 \div 5 = 70$

Compatible numbers are numbers that are easy to use mentally.

Try These

1. Estimate each quotient.

a) $273 \div 5$

b) $942 \div 6$

c) $470 \div 8$

d) $984 \div 3$

e) $789 \div 9$

f) $447 \div 4$

Practice

1. Estimate each quotient.

a) $351 \div 7$

b) $429 \div 5$

c) $632 \div 8$

d) $472 \div 6$

e) $209 \div 4$

f) $221 \div 3$

g) $994 \div 5$

h) $884 \div 9$

2. Sydney has 893 collector's coins. He wants to mount them in groups of 9.

About how many groups can he make? _____

3. Bruno travelled 785 km in one week.

About how far did he travel each day? _____

4. Maude made 140 g of trail mix.

About how much can she serve to each of 8 guests? _____

5. About how many Saturdays are there in 1 year? _____

6. One hundred ninety-one children signed up for basketball.

About how many teams of 9 can the coaches make? _____

7. Crayons are packaged in boxes of 8.

About how many boxes can be filled with 250 crayons? _____

Stretch Your Thinking

Arnold estimated that $847 \div 8$ is about 100. Was his estimate high or low?

Explain.
