Name _____

Reteaching
3-3

Estimating Products

A bus service drives passengers between Milwaukee and Chicago every day. They travel from city to city a total of 8 times each day. The distance between the two cities is 89 mi. In the month of February, there are 28 days. The company's budget allows for 28,000 total miles for February. Is 28,000 mi a reasonable budget mileage amount?

One Way to Estimate

Estimate $28 \times 8 \times 89$.

Use rounding.

You can round 89 to 100 and 8 to 10. Then multiply.

$28 \times 10 \times 100 = 280 \times 100 = 28{,}000$

Because this is an overestimate, there are enough miles.

Another Way to Estimate

Estimate $28 \times 8 \times 89$.

Use compatible numbers.

Replace 28 with 30, 89 with 90, and 8 with 10. 30, 90, and 10 are compatible numbers because they are close to the actual numbers in the problem and they are easier to multiply. Now the problem becomes $30 \times 90 \times 10$.

$30 \times 90 = 2{,}700$	Multiply 3 × 9, then place two zeros after the product.
$2{,}700 \times 10 = 27{,}000$	Multiply 27×1 using the Identity Property of Multiplication, then place three zeros after the product.

In the estimate, we used numbers greater than the original numbers, so the answer is an overestimate.

28,000 total miles is a reasonable budget amount.

Estimate each product. Use rounding or compatible numbers.

1. $42 \times 5 \times 90 =$ _____ **2.** $27 \times 98 \times 4 =$ _____

Mrs. Carter ordered new supplies for Memorial Hospital.

3. About how much will it cost to purchase 48 electronic thermometers?

_____

4. About how much will it cost to purchase 96 pillows?

_____

Supplies

Electronic thermometers	$19 each
Pulse monitors	$189 each
Pillows	$17 each
Telephones	$19 each

Name _____

Practice
3-3

Estimating Products

Estimate each product.

1. $68 \times 21 =$ _____

2. $5 \times 101 =$ _____

3. $151 \times 21 =$ _____

4. $99 \times 99 =$ _____

5. $87 \times 403 =$ _____

6. $19 \times 718 =$ _____

7. $39 \times 51 =$ _____

8. $47 \times 29 \times 11 =$ _____

9. $70 \times 27 =$ _____

10. $69 \times 21 \times 23 =$ _____

11. $7 \times 616 =$ _____

12. $8{,}880 \times 30 =$ _____

13. Give three numbers whose product is about 9,000.

_____

14. About how much would it cost to buy 4 CD/MP3 players and 3 MP3 players?

_____

Electronics Prices

CD player	$ 74.00
MP3 player	$ 99.00
CD/MP3 player	$199.00
AM/FM radio	$ 29.00

15. Which is the closest estimate for the product of $2 \times 19 \times 5$?

A 1,150 **B** 200 **C** 125 **D** 50

16. Explain how you know whether an estimate of a product is an overestimate or an underestimate.

_____

_____

_____

_____

