$\qquad$
Chapter 3

## Lesson 1

## Introducing the Eraser Store <br> NCTM Standards 1, 2, 6, 7, 8, 9, 10

(1) Fill in this chart to help with the rest of the page.


Find the missing number of packages or the number of erasers that are in each shipment.

| Shipment | Packages | Total Number of Erasers |
| :---: | :---: | :---: |
| 2 | 0 crates, ___ boxes, __ packs, ___ erasers | 4 |
| 3 | __ crates, ___ boxes, __ packs, __ erasers | 9 |
| (4) | 0 crates, 1 box, 2 packs, 5 erasers |  |
| 5 | 0 crates, 1 box, 3 packs, 5 erasers |  |
| 6 | 0 crates, 2 boxes, 3 packs, 5 erasers |  |
| 3 | 0 crates, 0 boxes, 6 packs, 6 erasers |  |
| 8 | ___ crates, ___ boxes, __ packs, ___ erasers | 72 |
| - | ___ crates, 3 boxes, 0 packs, ___ erasers | 150 |
| (10) | 1 crate, 0 boxes, 0 packs, 2 erasers |  |
| (11) | 1 crate, ___ boxes, __ packs, ___ erasers | 346 |

## Shorthand for Recording Shipments

- an eraser
a pack of 7 erasers $\quad \square$ a box of 7 packs erasers)
$\square$ a crate of 7 boxes (__ packs or ___ erasers)
Find the missing number of packages or the total number of erasers that are in each shipment.

| Shipment | Shorthand | Total Number of Erasers |
| :---: | :---: | :---: |
| 12 | - - • - • |  |
| (1) |  | 42 |
| 14 |  | 53 |
| (1) | $\qquad$ |  |
| 16 |  | 100 |
| 11 |  | 70 |
| 18 |  |  |
| 19 | $\square \square \square \square$ |  |
| (20) |  | 200 |
| (21) |  |  |
| 22) Challenge | $\square$ <br> $\square$ —— - |  |
| 23) Challenge | $\square$ | 392 |
| 24 Challenge | $\square \square$ | 695 |
| 23 Challenge |  | 294 |

$\qquad$

## Shipment Records at

## Record Keeping in the Eraser Store <br> Shorthand for recording shipments <br> - an eraser <br> ——a pack of 7 erasers <br> $\square$ a box of 7 packs ( erasers) <br> a crate of 7 boxes ( <br> $\qquad$ <br> packs or <br> $\qquad$ erasers)

## Complete the records.

| Shipment | Total Number of Erasers | Shorthand | $\square \square-$ |
| :---: | :---: | :---: | :---: |
| 1 | 8 |  | $0,0,1,1$ |
| 2 | 35 |  | $0,0,5,0$ |
| 3 | 353 | $\square$ - •• | - ——, |
| 4 |  | $\square=$ | -, - - |
| (5) |  | $\square-$ - | $0,1,1,2$ |
| 6 | 48 |  | $0,0,6$ |
| 7 |  | $\square \square=: ~: ~$ | $0,2,2,4$ |
| 8 | 67 |  | $0,1,2,4$ |

Oops! Someone packed this shipment incorrectly. Find the total number of erasers and fill in the blanks to show the correct way to package the shipment.

## Remember:

- Packs, boxes, and crates must be full.
- There must be as few loose erasers and as few containers as possible.

| Shipment | Total Number of Erasers | Shorthand | $\square \square-$ |
| :---: | :---: | :---: | :---: |
| - |  | $\square \square:: \because::$ | $\cdots$-, - |

These shipments have the correct number of erasers, but some are packed incorrectly. Circle each incorrect shipment and write the correct numbers of packages below it.

| Shipment | Total Number of Erasers |  | $\square$ | - | - |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 110 | 1,285 |  |  |  | $4$ |
| 11 | 250 | 0 |  |  |  |
| (12) | 591 | 1 |  |  |  |
| 13 | 1515 | 4 | 2 | 5 | 10 |
| 14 | 601 |  |  |  |  |
| (1) Challenge | 2,105 | 6 | 0 | 6 | 5 |
| (16) Challenge | 1,080 | 2 | 7 | 6 | 9 |
| Challenge | 344 | 0 | 6 | 6 | 8 |

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Chapter 3

## Lesson 3 <br> Organizing Shipment Data

NCTM Standards 1, 2, 6, 7, 8, 9, 10

## Shade the bar graph using the Organizing <br> Shipment Data: AM13.

SMALL SHIPMENTS MAILED

(1) Which day had the most small shipments?
(2) Which day had the fewest small shipments? $\qquad$
(3) Between which two consecutive days did the number of small shipments increase?
$\qquad$
(4) Between which two consecutive days did the number of small shipments decrease?

## Answer the questions using the graph.

INCORRECT SHIPMENTS

(5) How many more incorrect shipments were there in spring than fall? $\qquad$
(6) When were the most incorrect shipments made? $\qquad$
(7) How many incorrect shipments were made over the year? $\qquad$
(8) Challenge Here are two shipments:


Without finding the number of erasers in each shipment, tell how many more erasers there are in shipment $\mathbf{U}$ than there are in shipment $\mathbf{T}$. Explain your reasoning.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

# Combining and Reducing 

NCTM Standards 1, 2, 6, 7, 8, 9, 10

## Watch the add and subtract symbols!

- an eraser
$\square$ a box of 7 packs
__ a pack of 7 erasers
$\square$ a crate of 7 boxes

Find the results of the shipments after orders are increased or decreased.

prime XLIII forty-three 43


Use pictures, words, or numbers to explain how you solved the problem.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
(11) Challenge A school ordered 165 erasers. Use pictures to show your work. The shipment would be:

But the school changed the order to 3 times as many. Use pictures to show your work. This shipment would be:

Circle the parts of your picture that need repackaging and then write the new shipment.
$\qquad$
$\qquad$
$\qquad$

## Packaging Erasers in Tens

NCTM Standards 1, 2, 6, 7, 8, 9, 10

## Bigger containers have arrived!

## Watch the add and subtract symbols!

- an eraser
_— a pack of 10 erasers
$\square$ a box of 10 packs
$\square$ a crate of 10 boxes

Add or subtract the shipments.

3


5, 2, 6, 4
2 $1,1,0,8$

6

\& $0,2, \quad 0,2$
$\qquad$
(7) Donna ordered 3 boxes and 2 packs of erasers. Then she realized she didn't have enough money
for this order, so she removed 1 box and 5 packs Then she realized she didn't have enough money
for this order, so she removed 1 box and 5 packs
from her order. What is her new order?

$\square$ crates, $\square$ boxes,
$\square$ packs, $\square$ loose erasers
$\square$
$\square$
(8) Joel ordered some erasers. His brother ordered 5 packs and 3 loose erasers. The total shipment contains 1 box, 3 packs, and 7 loose erasers. What did Joel order?
$\square$ crates, $\square$ boxes,

$\square$ packs, $\square$ loose erasers $0,1, \quad 3,7$ $\square \quad 0, \quad 0, \quad 5, \quad 3$

(15) Challenge

(10) Challenge

$\qquad$

| - an eraser | $\square$ a box of 10 packs |
| :--- | :--- |
| - a pack of 10 erasers | $\square$ a crate of 10 boxes |

Find the total shipments.

$(7$ Debbie's father ordered erasers for Debbie, Charlie, Abby, and Nick. Each child got 1 box, 3 packs, and 5 loose erasers. What was the total shipment?

$\square \quad 4$


$\qquad$

## Sharing Shipments

NCTM Standards 1, 2, 6, 7, 8, 9, 10

- an eraser
_— a pack of 10 erasers
$\square$ a box of 10 packs
$\square$ a crate of 10 boxes
(1) If 3 students share 6 boxes, 7 packs, and 2 loose erasers, how many boxes, packs, and loose erasers will each student get?


2 Tim and his two sisters share 2 boxes, 4 packs, and 9 loose erasers. How many boxes, packs, and loose erasers will each of them get?

(3) Four classes share a shipment of 5 boxes and 4 packs of erasers. How many boxes and packs will each class get?

(4) Five friends share 4 boxes and 5 loose erasers. How many boxes and loose erasers will each friend get?


Watch the operation symbols.


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Chapter 3

## Lesson 8

Multiplying and Dividing Shipments
NCTM Standards 1, 2, 6, 7, 8, 9, 10

- an eraser
$\square$ a box of 10 packs
$\square$ a crate of 10 boxes

2

(4)

_, 1, 5, 6
$\square \quad 3$

9, 4, $\qquad$

6


(14) Challenge When the Eraser Store has a very big shipment to prepare, the employees put 10 crates on a pallet. A customer ordered 3 pallets, 4 crates, 2 boxes, 5 packs, and 4 erasers. Then the customer decided to divide the shipment into 2 equal halves.

How large should each half be?

Original Order
__,__,_,_,

Half Order

Name $\qquad$

## Chapter 3

## Lesson 9

## Connecting Shipment Records to Place Value <br> NCTM Standards 1, 2, 6, 7, 8, 9, 10

Solve these Eraser Store problems.

prime LIII fifty-three 53

(18) Challenge Jake multiplied a number by 2 and got

4,797 for an answer. Was he right? Explain.
$\qquad$
$\qquad$
$\qquad$

54 fifty-four LIV $2 \geqslant 3 \geqslant 3 \geqslant 3$
$\qquad$

## Estimating Shipment Orders

NCTM Standards 1, 2, 6, 7, 8, 9, 10

## Match each expression with its best estimate.

1
605

- 403
(2) $1,742 \geqslant 261$
$>\quad 200$

3 $247 \geqslant 800$
(4) 890 〇 10 1,000
(5) $2,023>1,500$

6 $1,407 \geqslant 7>2,000$
(7) $1,917 \quad 3,064 \bigcirc 3,000$
(3) $5,692 \geqslant 2,518$

4,000
$\begin{array}{lllll}\text { (9) } 49 & 9 & >5,000 \\ \text { (10) } 4,987 & \square & 5,062 & >10,000\end{array}$

## Estimate the answers.




$\qquad$

# Problem Solving Strategy 

Make a Table
NCTM Standards 1, 2, 6, 7, 8, 9, 10
(1) Sedrick ordered erasers from the Eraser Store before the store bought new containers. So, each pack contained 7 erasers, each box contained 7 packs, and each crate contained 7 boxes. He can't remember how many erasers he ordered, but when his order arrived, there were 3 containers and no loose erasers. What are all the possible orders he might have made?
(2) The Eraser Store now has pencils too! Pencils cost $3 \phi$ each, or 4 for $10 \phi$. Erasers cost $4 \phi$, or 4 for $15 \phi$. There is a limit of 5 pencils and 5 erasers per customer

Alison spent $25 \phi$. What purchases might she have made?
___ pencils, ___ erasers,
or ___ pencils and ___ erasers,
or pencils and ___ erasers.

## Problem Solving Test Prep

## Choose the correct answer.

(1) Lisa started watching a movie at 7:40 P.M. The movie lasted 2 hours 13 minutes. At what time did she finish watching?
A. 8:55 P.M.
B. 9:53 P.M.
C. 10:03 P.M.
D. 10:13 P.M.
2. Derrick is making a design using squares and circles. He has 3 different-size squares and 5 different-size circles. If he chooses 1 square and 1 circle, how many pairs can he make?
A. 6
B. 8
C. 12
D. 15
(3) Which subtraction sentence is equivalent to the one shown?

$$
\begin{aligned}
& (400 \square 20 \square 3) \\
& (200 \square 80 \square 7)
\end{aligned}
$$

A. 423 - 280 ( 143
B. 420 280 140
C. 423 ) 287 ) 136
D. 420 287 133
(4) Which number sentence represents this story?

You have 17 stickers and share them evenly among yourself and 4 friends.
A. 17 - 5 r2
B. 17 ) 4 r 3
C. 17 ) 2 r 3
D. 17 < 4 r 1

## Show What You Know

Solve each problem. Explain your answer.
(5) At the Snack Shop, large drinks cost $\$ 2$ and small drinks cost $\$ 1.50$. If you want to spend exactly $\$ 14.00$ on drinks, what can you order? Explain.
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## chapter 3 Review/Assessment <br> NCTM Standards 1, 2, 6, 7, 8, 9, 10

- an eraser
$\square$ a box of 7 packs
_ a pack of 7 erasers
$\square$ a crate of 7 boxes

Find the new number of each type of package. Lessons 1, 2, 4, and 5

(4) Complete the bar graph using the data. Then answer the question. Lesson 3

| ORDERS SHIPPED |  |
| :--- | :---: |
| Monday | 2 |
| Tuesday | 4 |
| Wednesday | 3 |
| Thursday | $\mathbf{I}$ |
| Friday | $\mathbf{5}$ |


|  | ERASER STORE ORDERS SHIPPED |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| 4 |  |  |  |  |  |
|  |  |  |  |  |  |
| $3$ |  |  |  |  |  |
| $\begin{aligned} & 2 \\ & 1 \end{aligned}$ |  |  |  |  |  |
|  |  |  |  |  |  |
|  | M | Tu | W | Th | F |

If 1,000 erasers were shipped in each order, how many more erasers shipped on Friday than on Monday?
$\qquad$

There are 10 erasers in a pack， 10 packs in a box，and
10 boxes in a crate．Lessons 6 and 7
（5）The Eraser Store has run out of crates．Orders must now be shipped in smaller boxes of 500 ．The Bell School ordered 2 crates， 6 boxes， 1 pack，and 5 loose erasers． Mr．Z＇s class ordered 1 crate， 4 boxes， 9 packs，and 4 loose erasers．How many boxes of 500 will you need to ship the order？
$\qquad$ smaller boxes of 500

Find the missing numbers．Lessons 8 and 9

| 6 |  |  |  |  | 7 |  |  |  |  | 8 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 2 | 4 | 0 | 1 |  |  | 2 | 0 | 1 |  | 3, | 4 | 2 | 2 |
| $\square$ |  |  |  | 4 |  | 1， | 0 | 0 | 5 | $\square$ |  |  |  |  |
|  | 9 | 6 |  |  |  |  |  |  |  | 1 | － | － | 6 | 6 |

（2）Devon is ordering prizes for the school carnival．She needs about 4 prizes per student．If there are about 1，089 students in her school，about how many prizes does Devon need？Explain how you found your answer．Lesson 10

Doug works at the Eraser Store．The table at the right shows the orders he has received from three different grade levels at Highland Elementary School．He wants to package the orders into one shipment．What is the fewest number of packages he can ship？Lesson 11

| Grade | Erasers |
| :---: | :---: |
| 3 | 689 |
| 4 | 752 |
| 5 | 587 |

