

Save on Packaging

The Eraser Store sells packs of 7 erasers; boxes of 7×7 , or 49 erasers; and crates of $7 \times 7 \times 7$, or 343 erasers.

The owners of the Eraser Store always use the fewest packs, boxes, and crates possible. Loose erasers are wrapped separately.

For example, if they have to ship 121 erasers, they would ship 2 boxes, 3 packs, and 2 loose erasers for a total of 7 containers.

For each shipment, write the least number of containers that would be needed. The first one has been started for you. Use it as a model to complete the others.

	Erasers to be Shipped	Number of Crates	Number of Boxes	Number of Packs	Number of Loose Erasers	Total Number of Containers
①	180	0	$3 \times 49 = 147$ That's 3 boxes.	$4 \times 7 = 28$ That's 4 packs.	5 Wrap 5 erasers.	
②	50					
③	125					
④	350					
⑤	1,000					
⑥	672					
⑦	800					
⑧	599					

The Corrector

The Eraser Store is still shipping 7 erasers to a pack, 7 packs to a box, and 7 boxes to a crate. Employees at the store sometimes use too many containers. It is the job of the Corrector to make changes so that the fewest containers are used.

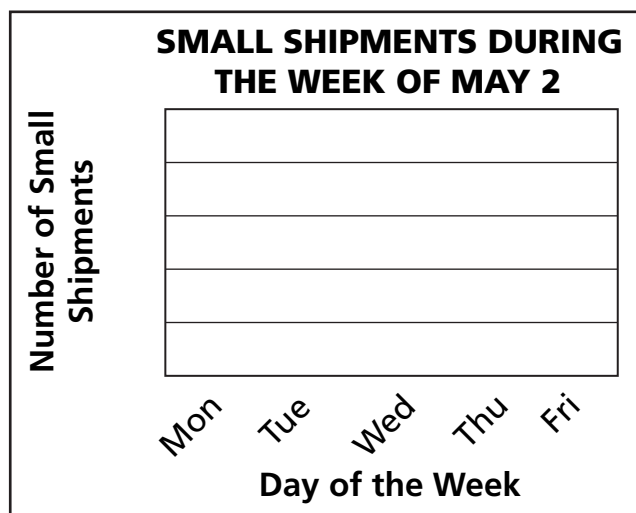
For example, an employee might pack 65 erasers in 1 box and 1 pack. There would be 9 erasers left. Your job as Corrector is to show that 7 of those 9 erasers could be put into another pack. Then the 65 erasers would be correctly packed in 1 box and 2 packs, with 2 loose erasers. So, only 5 containers would be needed, instead of 11 containers. (Remember, each loose eraser is wrapped separately.)

For each shipment, decide whether the least number of containers was used. Circle the ones in which a mistake was made. Then make the corrections.

	Number of Erasers to Ship	Number of Crates	Number of Boxes	Number of Packs	Number of Loose Erasers
1	60	0	1	1	4
2	72	0	1	2	9
3	51	0	1	0	2
4	105	0	2	0	7
5	96	0	1	5	12
6	400	1	1	1	1

Charting Shipments

Suppose you were in charge of shipments for the Eraser Store last week. Make up data for the bar graph shown below. Number the vertical axis in a way that seems reasonable. Draw bars for each day of the week using the scale on the vertical axis.



For 1–3, use your bar graph.

- 1 Were the number of shipments the same on any days? If so, on which days were the numbers of shipments the same?

- 2 What was the difference between the greatest number of shipments and the least?

- 3 Between which two days was the difference in the number of shipments the greatest? Between which two days was the difference the least?

Changing Orders

Sometimes customers change the orders they place with the Eraser Store. When that happens, it is necessary to add or subtract erasers from an order.

Follow the directions to show how you would change each order. Then describe how each final shipment would be packed. Remember that there are 7 erasers in a pack, 7 packs in a box, and 7 boxes in a crate.

1 Original order: \square — •••• _____ erasers

Change in order: Remove — — • _____ erasers

Trade 1 box for _____ packs:

$\square \rightarrow$ _____ (Show shorthand.)

So, you have — — — — — — — — ••••

Now, remove the erasers and combine what is left:

There are _____ erasers left.

2 Original order: $\square \square \square$ — — — — _____ erasers

Change in order: Add: — — — •••• _____ erasers

Now, combine using the fewest containers:

There are _____ erasers.


Incorrect Shipments?


The Eraser Store now packs erasers by tens. The shipments below are described using pictures.


For 1–6:

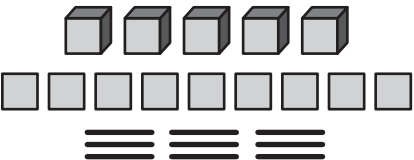
- A** Write the number of erasers in the shipment.
- B** Then decide whether the shipment is packed using the least number of containers. If it is, write yes. If it is not, write how the shipment should be repacked to use the least number of containers.

1  A _____ erasers B _____

2  A _____ erasers B _____

3  A _____ erasers B _____

4  A _____ erasers B _____

5  A _____ erasers B _____

6  A _____ erasers B _____

Multiple Shipments

The erasers are still packed by tens.

For 1–4:

- A** Find the total number of erasers to be shipped.
- B** Show how the erasers should be packed using the least number of containers.

1 3 shipments of B



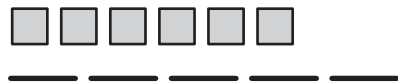
A _____ erasers in 3 shipments

2 5 shipments of B



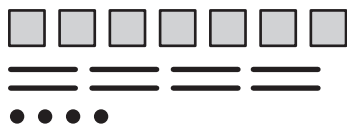
A _____ erasers in 5 shipments

3 2 shipments of B



A _____ erasers in 2 shipments

4 4 shipments of B



A _____ erasers in 4 shipments

Sharing Erasers

At the beginning of the school year, the Eraser Store sent erasers to different schools. Each school divided its erasers evenly among the grades.

For each grade shown below:

- A** Find the number of erasers each grade received in each school.
- B** Show how each grade will receive its erasers using the least number of containers.

1 3 grades sharing **B**



A _____ erasers for each grade

2 4 grades sharing **B**



A _____ erasers for each grade

3 6 grades sharing **B**



A _____ erasers for each grade

4 8 grades sharing **B**



A _____ erasers for each grade

Recording Multiplication and Division

Complete. Then show how the product or quotient should be packed using the fewest containers. You may use C to represent a crate.

1

•

4

1,
0,
7,
2

2

•

1,
0,
2,
5

×

1,
0,
2,
5

6

1,
0,
2,
5

3

•

7,
9,
3

×

7,
9,
3

8

7,
9,
3

4

•

6

3,
3,
6,
6

5

•

1,
3,
1,
4

×

1,
3,
1,
4

3

1,
3,
1,
4

6

•

7

0,
7,
5,
6

Missing Commas

Complete each problem. Then show how each order would be filled using the least number of containers. You may use C to represent a crate.

1

3	1,	4,	4, 3

2

	5,	3,	2
×			9

3

1,	1,	2,	5
×			4

4

2	3,	9,	6, 8

5

2,	2,	6,	1
×			2

6

4	4,	1,	3, 6

Give Me an Estimate

Estimate the product or quotient.

<p>1</p> $\begin{array}{r} \quad \quad \quad _ _ _ \times \times \\ 3 \overline{) 1, 1 7 7} \end{array}$	<p>2</p> $\begin{array}{r} \quad \quad \quad 4 \quad 9 \quad 1 \\ \times \quad \quad \quad \quad \quad 7 \\ \hline _ _ _ , _ _ _ \times \times \end{array}$
<p>3</p> $\begin{array}{r} \quad \quad \quad 2, \quad 2 \quad 8 \quad 0 \\ \times \quad \quad \quad \quad \quad 2 \\ \hline _ _ _ , _ _ _ \times \times \times \end{array}$	<p>4</p> $\begin{array}{r} \quad \quad \quad _ _ _ , _ _ _ \times \times \\ 2 \overline{) 6, 4 3 2} \end{array}$
<p>5</p> $\begin{array}{r} \quad \quad \quad \quad \quad 8 \quad 9 \quad 6 \\ \times \quad \quad \quad \quad \quad \quad 5 \\ \hline _ _ _ , _ _ _ \times \times \end{array}$	<p>6</p> $\begin{array}{r} \quad \quad \quad _ _ _ , \times \times \times \\ 4 \overline{) 8, 2 7 1} \end{array}$
<p>7</p> $\begin{array}{r} \quad \quad \quad \quad \quad 6 \quad 0 \quad 8 \\ \times \quad \quad \quad \quad \quad \quad 2 \\ \hline _ _ _ , _ _ _ \times \times \end{array}$	<p>8</p> $\begin{array}{r} \quad \quad \quad _ _ _ \times \times \\ 5 \overline{) 1, 1 1 3} \end{array}$
<p>9</p> $\begin{array}{r} \quad \quad \quad \quad \quad 9 \quad 1 \quad 2 \\ \times \quad \quad \quad \quad \quad \quad 6 \\ \hline _ _ _ , _ _ _ \times \times \end{array}$	<p>10</p> $\begin{array}{r} \quad \quad \quad _ _ _ , _ _ _ \times \times \\ 6 \overline{) 7, 8 2 1} \end{array}$