

Objectives:

- Students will divide with remainders using manipulatives, as evidenced by their completion of a class worksheet where they do so.
- Students will memorize the multiplication table, as evidenced by them passing “minute quizzes.”

Student Materials on Desk Corner:

- Homework #11
- Homework Checker
- Readiness Checker

Student Materials for Later:

- Homework Log
- Binder Paper
- Pencils

Teacher Materials:

- “Minute Quiz 12”
- “Homework 1-11” answer key and grading roster for TA
- “ALEKS Time” transparency
- “Homework 1-12” handout

Homework:

- Homework 1-12
- Comprehensive Test Next Friday 10/3

Time	Activity
Before Bell	<p style="text-align: center;">DO NOW</p> <p>As students enter the classroom, shake hands and remind them that there is a minute quiz. So students need to be seated quietly with a pencil when the bell rings.</p> <p>Write the following “Do Now” on the board:</p> <ul style="list-style-type: none"> • Take out a pencil and <i>quietly</i> wait for the minute quiz.
5 min	<p style="text-align: center;">MINUTE QUIZ</p> <p>When the bell rings, quickly go around and put the minute quiz on each student’s desk, facedown. Then, start everyone on the quiz at the same time and give everyone one minute. While students are working on the quiz, stamp the readiness checkers of students who were ready when the bell rang and had their readiness checkers out.</p> <p>Instruct the TA go around and collect homework and stamp homework checkers. Give the TA the answer key and have them grade the homework they collected.</p>
44 min	<p style="text-align: center;">ALEKS</p> <p>Students should continue with ALEKS. Put up ALEKS Time transparency that shows how much time students currently have on ALEKS. Use this student work time to return graded homework.</p>
1 min	<p style="text-align: center;">STRETCH BREAK</p> <p>Before transitioning to the lecture, lead the students through some exercises to refresh them.</p>
30 min	<p style="text-align: center;">LESSON: PARTIAL QUOTIENTS</p> <p>Notes Follow the handwritten Cornell Notes.</p> <p>Homework Pass out the “Homework #12” handout and have students write down the assignment on their homework logs. Remind students that there is a comprehensive test next Friday, and it is also the last day for them to turn in corrections for homework assignments.</p>

Solve the following multiplication problems. You have exactly one minute!

$7 \cdot 9 =$	$2 \cdot 6 =$	$10 \cdot 12 =$
$4 \cdot 1 =$	$8 \cdot 6 =$	$1 \cdot 11 =$
$6 \cdot 7 =$	$7 \cdot 7 =$	$9 \cdot 1 =$
$11 \cdot 9 =$	$8 \cdot 4 =$	$6 \cdot 7 =$

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$6 \cdot 7 =$	$7 \cdot 7 =$	$9 \cdot 1 =$
$11 \cdot 9 =$	$8 \cdot 4 =$	$6 \cdot 7 =$

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$4 \cdot 1 =$	$8 \cdot 6 =$	$1 \cdot 11 =$
$6 \cdot 7 =$	$7 \cdot 7 =$	$9 \cdot 1 =$
$11 \cdot 9 =$	$8 \cdot 4 =$	$6 \cdot 7 =$

Solve the following multiplication problems. You have exactly one minute!

$8 \cdot 5 =$

$5 \cdot 9 =$

$1 \cdot 4 =$

$4 \cdot 12 =$

$2 \cdot 11 =$

$7 \cdot 1 =$

$5 \cdot 9 =$

$9 \cdot 3 =$

$6 \cdot 7 =$

$4 \cdot 4 =$

$2 \cdot 2 =$

$2 \cdot 2 =$

Solve the following multiplication problems. You have exactly one minute!

$8 \cdot 5 =$

$5 \cdot 9 =$

$1 \cdot 4 =$

$4 \cdot 12 =$

$2 \cdot 11 =$

$7 \cdot 1 =$

$5 \cdot 9 =$

$9 \cdot 3 =$

$6 \cdot 7 =$

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$7 \cdot 1 =$

$5 \cdot 9 =$

$9 \cdot 3 =$

$6 \cdot 7 =$

$4 \cdot 4 =$

$2 \cdot 2 =$

$2 \cdot 2 =$

Solve the following multiplication problems. You have exactly one minute!

$2 \cdot 7 =$

$5 \cdot 10 =$

$9 \cdot 1 =$

$8 \cdot 9 =$

$10 \cdot 1 =$

$10 \cdot 2 =$

$1 \cdot 1 =$

$1 \cdot 10 =$

$12 \cdot 5 =$

$2 \cdot 3 =$

$2 \cdot 8 =$

$5 \cdot 12 =$

Solve the following multiplication problems. You have exactly one minute!

$2 \cdot 7 =$

$5 \cdot 10 =$

$9 \cdot 1 =$

$8 \cdot 9 =$

$10 \cdot 1 =$

$10 \cdot 2 =$

$1 \cdot 1 =$

$1 \cdot 10 =$

$12 \cdot 5 =$

$2 \cdot 3 =$

$2 \cdot 8 =$

$5 \cdot 12 =$

Solve the following multiplication problems. You have exactly one minute!

$2 \cdot 7 =$

$5 \cdot 10 =$

$9 \cdot 1 =$

$8 \cdot 9 =$

$10 \cdot 1 =$

$10 \cdot 2 =$

$1 \cdot 1 =$

$1 \cdot 10 =$

$12 \cdot 5 =$

$2 \cdot 3 =$

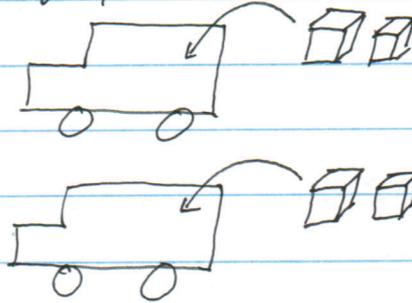
$2 \cdot 8 =$

$5 \cdot 12 =$

Partial Quotient Division

Section → Review

When we divided boxes into trucks, we kept putting more and more boxes into the trucks until no more would fit ~~evenly~~ equally.



The partial quotient method ^{of division} uses the same idea

Section → Partial Quotient Division

steps

Step 1) Set up the problem

Step 2) Pick easy ~~multiple~~ numbers of boxes. Repeat until no more boxes divide equally.

Step 3) Add up the partial quotients

meaning of \div

starting boxes \swarrow \searrow # of trucks
Ex: ~~42~~ $57 \div 4 = ?$

~~This means how many boxes does each truck have~~

~~when~~ We want to find how many boxes each truck has and how many boxes remain in the loading area.

$4 \overline{) 57}$		partial quotients	
$\underline{-20}$		5	← try putting 5 boxes trucks in each truck
37		5	
$\underline{-20}$		5	← try another 5
17			
$\underline{-8}$		2	← 5 won't work. Try 2.
9			
$\underline{-8}$		+ 2	we can't fit any more boxes into the trucks evenly.
1		14	so we're done.
9			
↑		↑	
1 box remaining in loading area		14 boxes in each truck	

Ex: $2079 \div 9 = ?$

$9 \overline{) 2079}$		partial quotients
$\underline{-900}$		100
1179		
$\underline{-900}$		100
279		
$\underline{-90}$		10
189		
$\underline{-90}$		10
99		
$\underline{-90}$		10
9		10
$\underline{-9}$		+ 1
0		231

↑

↑ 231 boxes in each truck

0 boxes remaining in loading area

**Evaluate the following problems using the partial quotient method of division.
You must show your work for credit.**

1) $123 \div 4 =$ _____ with remainder _____ 2) $288 \div 12 =$ _____ with remainder _____

partial quotients

partial quotients

3) $4823 \div 12 =$ _____ with remainder _____ 4) $1000 \div 25 =$ _____ with remainder _____

partial quotients

partial quotients

5) $726 \div 8 =$ _____ with remainder _____ 6) $231 \div 5 =$ _____ with remainder _____

partial quotients

partial quotients

7) $72 \div 8 =$ _____ with remainder _____

partial quotients

8) $28 \div 7 =$ _____ with remainder _____

partial quotients

9) $293 \div 12 =$ _____ with remainder _____

partial quotients

10) $720 \div 9 =$ _____ with remainder _____

partial quotients

11) $1298 \div 9 =$ _____ with remainder _____

partial quotients

12) $7239 \div 150 =$ _____ with remainder _____

partial quotients