Name _____ Date _____

Practice Multiplying with Tens

Use the menu to choose your practice.

Practice Menu			
Can I Do This?	**▲ Working On It!**	**● Getting It!**	**■ Got It!**
Multiply numbers that are multiples of ten.	**Questions 1–4**	**Questions 2–6, 8**	**Questions 5–8**

Using Base-Ten Pieces and Shorthand

▲□□ **1.** Write a number sentence to describe the multiplication problems shown in base-ten shorthand. The first one is an example.

Ex. 

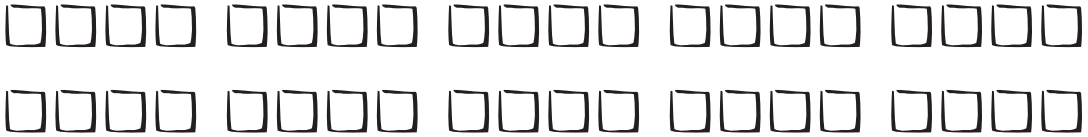
Number sentence: $4 \times 70 = 280$

A. 

Number sentence: _____

B. 

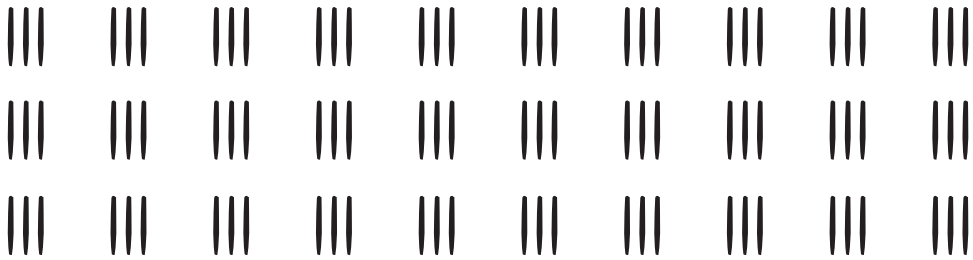
Number sentence: _____

C. 

Number sentence: _____

Name _____ Date _____

D.



Number sentence: _____

▲●□ **2.** Question A below shows Nila's way to solve problems with multiples of ten. Solve the other problems following this example. Do not forget to use the turn-around rule when needed.

A. $6 \times 30 = 6 \times 3$ tens

6×3 tens $= 18$ tens

18 tens $= 180$

B. $7 \times 400 = 7 \times 4$ _____

_____

_____

C. $4 \times 80 = 4 \times$ _____

_____

_____

D. $300 \times 4 = 3$ _____ $\times 4$

_____

_____

▲●□ **3.** Rewrite the same problems from Question 2 and show how to solve them using Alexis's way. Question A is an example.

A. $6 \times 30 = 6 \times 3 \times 10$

$(6 \times 3) \times 10 = 18 \times 10$

$18 \times 10 = 180$

B. $7 \times 400 =$ _____

_____

_____

C. $4 \times 80 =$ _____

_____

_____

D. $300 \times 4 =$ _____

_____

_____

Name _____ Date _____

▲● **4.** Solve the following problems using any method you choose. Look for patterns. Use a calculator to check your answers.

A. $3 \times 7 =$

$3 \times 70 =$

$3 \times 700 =$

$30 \times 7 =$

$30 \times 70 =$

$300 \times 70 =$

B. $2 \times 8 =$

$2 \times 80 =$

$20 \times 8 =$

$20 \times 80 =$

$200 \times 8 =$

$200 \times 800 =$

C. $4 \times 11 =$

$40 \times 11 =$

$4 \times 110 =$

$4 \times 1100 =$

$400 \times 11 =$

$400 \times 1100 =$

D. $3 \times 12 =$

$3 \times 120 =$

$30 \times 12 =$

$3 \times 1200 =$

$300 \times 120 =$

$3000 \times 1200 =$

●■ **5.** Use Alexis's way from Question 3 to solve these problems. Remember to use the turn-around rule when needed.

A. $60 \times 40 =$ _____

B. $50 \times 300 =$ _____

C. $110 \times 60 =$ _____

D. $140 \times 200 =$ _____

E. $40 \times 400 =$ _____

F. $900 \times 400 =$ _____

Name _____ Date _____

6. Solve the following problems any way you wish. Try to do them in your head as much as possible. Write a number sentence for each to show how you solved it.

A. The giant sequoia trees in California are the world's tallest trees. Many of them grow to be more than 80 meters tall. If 8 giant sequoias were laid end to end, how far would they stretch?

B. Mr. Rankins bought *The Daily Babbler* newspaper, which sold 3500 newspapers every day at the time. By the time Mr. Rankins retired, the newspaper sold double the number of newspapers every day. How many *Daily Babbler* newspapers were sold every day when Mr. Rankins retired?

C. About 700 students graduate from Northwest High School every year. If this trend continues, about how many students will have graduated from Northwest High School altogether in the next 50 years?

7. Use digits to write the numbers that are described below. Then go back and read the answers to the problems out loud.

A. 451 thousands

B. 79 tens

C. 85 hundreds

D. 138 hundreds

E. 238 ten thousands

F. 364 tens

G. 65 thousands

H. 48 hundred thousands

Name _____ Date _____

8. A. Arlene's grandmother lives 250 miles away. Arlene tries to visit her grandmother at least twice every year. In six years, how many miles does Arlene drive visiting her grandmother? (Remember, she has to drive back home after each visit.)

B. John, Irma, and Steve combined their dominos and set up a domino trail that was 1500 dominos long. They challenged all the classes in their school to match their trail. At the end of the challenge, there were a total of 40 groups of students who built domino trails using 1500 dominos each. How many dominos were used in all?

Name _____ Date _____

Our Best Estimate

Work in groups of three to estimate answers for each of the problems below. For each problem:

- Estimate an answer on your own (use mental math if you can). Write your own estimate in the first box.
- Share your estimate with your partners and explain your reasoning. Write your partners' estimates in the boxes under their names.
- Discuss with your partners which estimate is the best and why you think so. Write your group's best estimate in the "Our Best" column.
- In the "Our Reasoning" column, show or tell why your group decided it was the best estimate.

The first problem is an example.

	ESTIMATES				
Problem	**Mine**	**Partner Name:**	**Partner Name:**	**Our Best**	**Our Reasoning**
Example 38 × 6	210	240	200	240	This estimate is best because we had to use only one convenient number (40) which is close to 38. 40 × 6 = 240
1. 8 × 27					

Name _____ Date _____

	ESTIMATES				
Problem	**Mine**	**Partner Name:**	**Partner Name:**	**Our Best**	**Our Reasoning**
2. 98 × 9					
3. 77 × 52					
4. 89 × 27					
5. 752 × 6					
6. 72 × 965					

Name _____ Date _____

Hour Walk Work Feedback Box

Student to Student	Yes . . .	Yes, but . . .	No, but . . .	No . . .
MPE1. Know the problem. I read the problem carefully. I know the questions to answer and what information is important.				
MPE2. Find a strategy. I choose good tools and an efficient strategy for solving the problem.				
MPE3. Check for reasonableness. I look back at my solution to see if my answer makes sense. If it does not, I try again.				
MPE4. Check my calculations. If I make mistakes, I correct them.				
MPE5. Show my work. I show or tell how I arrived at my answer so someone else can understand my thinking.				
MPE6. Use labels. I use labels to show what numbers mean.				

Name _____ Date _____

Hour Walk Work Feedback Box

Teacher to Student	Yes . . .	Yes, but . . .	No, but . . .	No . . .
MPE1. Know the problem. I read the problem carefully. I know the questions to answer and what information is important.				
MPE2. Find a strategy. I choose good tools and an efficient strategy for solving the problem.				
MPE3. Check for reasonableness. I look back at my solution to see if my answer makes sense. If it does not, I try again.				
MPE4. Check my calculations. If I make mistakes, I correct them.				
MPE5. Show my work. I show or tell how I arrived at my answer so someone else can understand my thinking.				
MPE6. Use labels. I use labels to show what numbers mean.				

Name _____ Date _____

Multiplication Strategies Menu

Breaking into tens and ones

Using Expanded Form

$$\begin{array}{r} 23 \\ \times\ 6 \\ \hline \end{array} = \begin{array}{r} 20 + 3 \\ \times\ 6 \\ \hline 120 + 18 = 138 \end{array}$$

or

	20	3
6	6 × 20 = 120	6 × 3 = 18

$$\begin{array}{r} 120 \\ +\ 18 \\ \hline 138 \end{array}$$

Using All-Partials

$$\begin{array}{r} 23 \\ \times\ 6 \\ \hline 18 \\ +\ 120 \\ \hline 138 \end{array} \quad \textit{or} \quad \begin{array}{r} 23 \\ \times\ 6 \\ \hline 120 \\ +\ 18 \\ \hline 138 \end{array}$$

Compact Method

$$\begin{array}{r} {\scriptstyle 1}\ \\ 23 \\ \times\ 6 \\ \hline 138 \end{array}$$

Other ways to use simpler problems

Thinking About Money

27 × 4

$27 \times 4 = 25 \times 4 + 2 \times 4$
$= 100 + 8$
$= 108$

Using Simpler Numbers

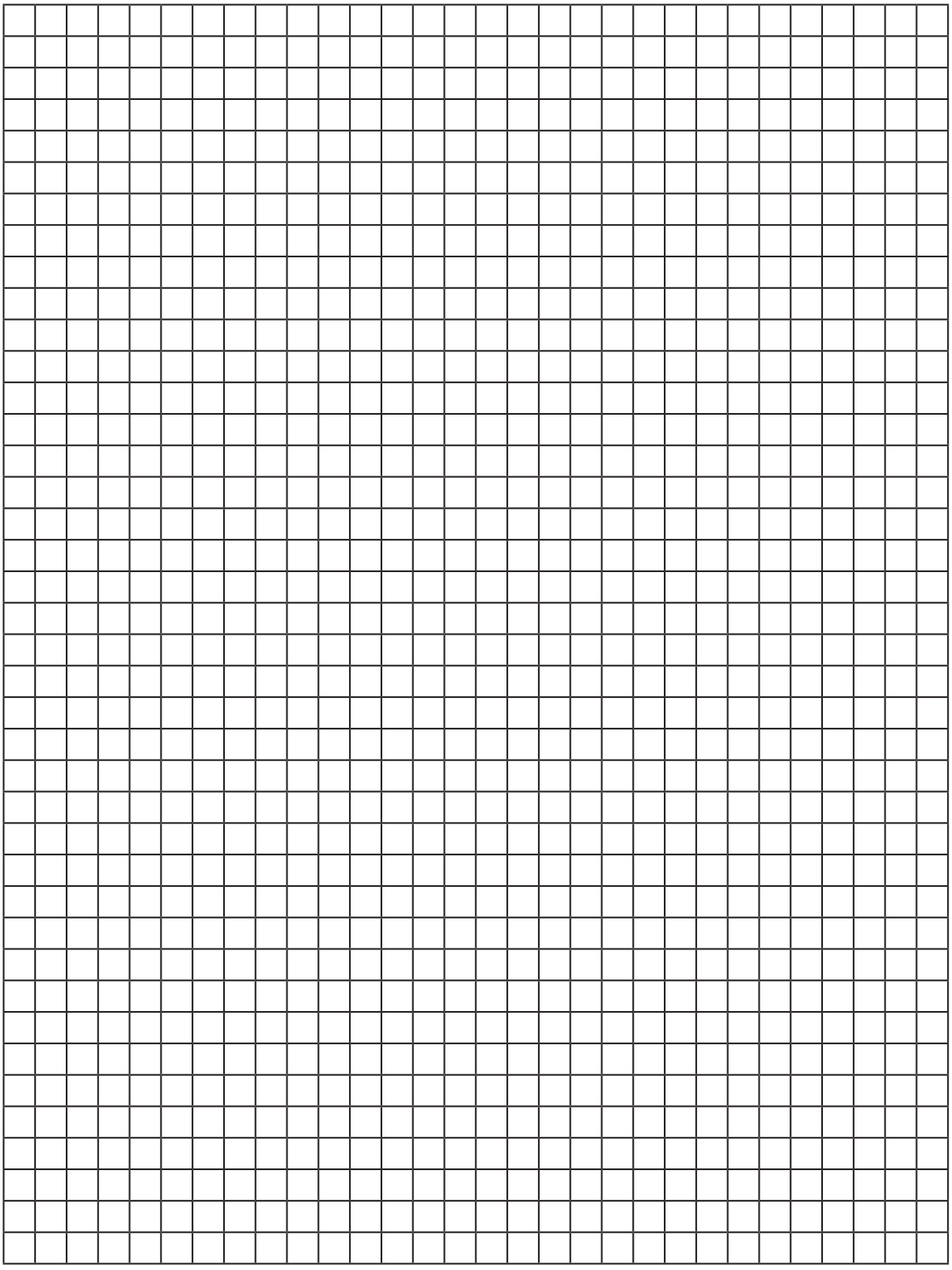
48 × 6

I know 48 + 2 = 50.
So, 50 X 6 = 300 and 2 x 6 = 12.
Then I subtracted 300 – 12 = 288.

Another Strategy: _____

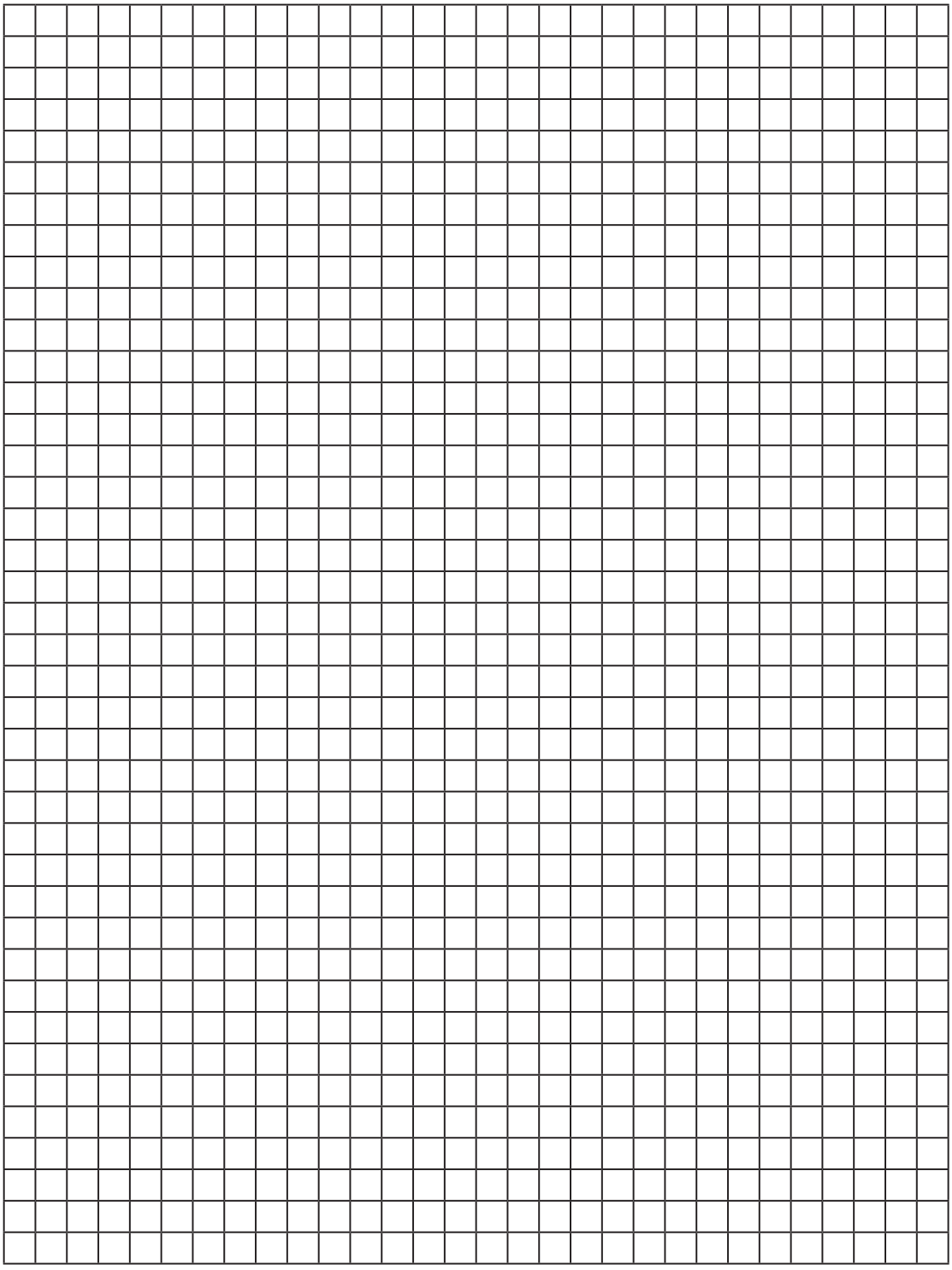
Name _____ Date _____

Half-Centimeter Grid Paper



Name _____ Date _____

Half-Centimeter Grid Paper



Name _____ Date _____

Multiplication Strategies Menu for Larger Numbers

Using Rectangles

6×623

	600	20	3
6	$6 \times 600 = 3600$	$6 \times 20 = 120$	$6 \times 3 = 18$

$3600 + 120 + 18 = 3738$

Using Expanded Form

623×6 = $(600 + 20 + 3) \times 6$

$3600 + 120 + 18 = 3738$

Using All-Partials

$$\begin{array}{r} 623 \\ \times\ 6 \\ \hline 18 \\ 120 \\ +\ 3600 \\ \hline 3738 \end{array} \quad \text{or} \quad \begin{array}{r} 623 \\ \times\ 6 \\ \hline 3600 \\ 120 \\ +\ 18 \\ \hline 3738 \end{array}$$

Using the Compact Method

$$\begin{array}{r} {\scriptstyle 1\ 1} \\ 623 \\ \times\ 6 \\ \hline 3738 \end{array}$$

Thinking About Money

127×4

$127 = 100 + 25 + 2$

I think: 4 dollars + 4 quarters + (2 × 4) pennies

$= 400 + 100 + 8$

$= 508$

Using Simpler Numbers

298×4

I know 298 + 2 = 300.
So, 300 × 4 = 1200 and 2 × 4 = 8.
Then I subtracted 1200 − 8 = 1192.

264×5

I know multiplying by 10 is easier than multiplying by 5. I double 5 to 10 and I take $\frac{1}{2}$ of 264, which is 132. 132 × 10 = 1320. Or I could multiply 264 × 10 = 2640 and take half of that: 1320.