4-1

Name Key

due Monday
Date 9/30/19

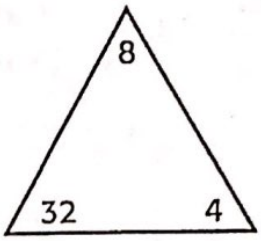
Enrich

Week 7 Homework

Tricky Triangles

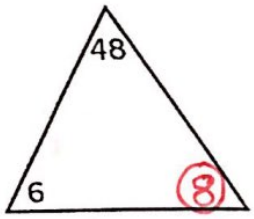
Look at this example:

$4 \times 8 = 32$
$32 \div 8 = 4$



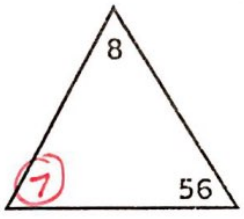
Find the missing number in each triangle. Then write a related multiplication and division problem for each triangle.

1.



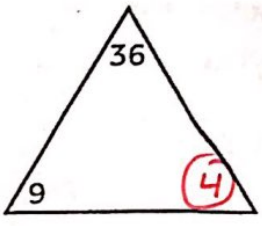
$6 \times 8 = 48$ $48 \div 8 = 6$
$8 \times 6 = 48$ $48 \div 6 = 8$

2.



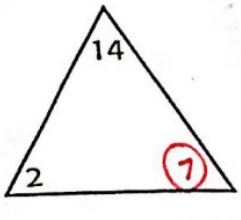
$8 \times 7 = 56$ $56 \div 7 = 8$
$7 \times 8 = 56$ $56 \div 8 = 7$

3.



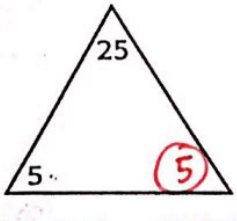
$4 \times 9 = 36$ $36 \div 9 = 4$
$9 \times 4 = 36$ $36 \div 4 = 9$

4.



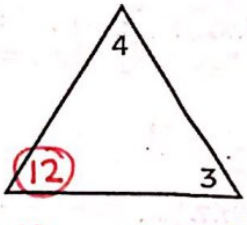
$2 \times 7 = 14$ $14 \div 7 = 2$
$7 \times 2 = 14$ $14 \div 2 = 7$

5.



$5 \times 5 = 25$ $25 \div 5 = 25$

6.



$3 \times 4 = 12$ $12 \div 4 = 3$
$4 \times 3 = 12$ $12 \div 3 = 4$

Name _____

LESSON 8.5

Multiply 3 Factors

The **Grouping Property** may help you when you multiply. Remember that when the grouping of factors changes, the product remains the same. Look at the example below which shows the Grouping Property.

$(3 \times 2) \times 2$ gives the same answer as $3 \times (2 \times 2)$.

Choose the way of grouping that is easier for you to multiply. What is $5 \times 2 \times 3$?

- Group the factors two ways. $(5 \times 2) \times 3 = \underline{?}$ $5 \times (2 \times 3) = \underline{?}$
- Choose the way that is easier for you.
- Solve.

Think: $5 \times 2 = 10$. It's easy to multiply tens.

$10 \times 3 = 30$ $5 \times 6 = 30$

Circle the grouping that is easier for you. Show how to solve it.

1. $(2 \times 2) \times 3 = \underline{?}$, or $2 \times (2 \times 3) = \underline{?}$
   $(2 \times 2) \times 3 = 4 \times 3 = 12$
   $2 \times (2 \times 3) = 2 \times 6 = 12$

2. $(2 \times 5) \times 3 = \underline{?}$, or $2 \times (5 \times 3) = \underline{?}$
   $(2 \times 5) \times 3 = 10 \times 3 = 30$
   $2 \times (5 \times 3) = 2 \times 15 = 30$

3. $(4 \times 2) \times 3 = \underline{?}$, or $4 \times (2 \times 3) = \underline{?}$
   $(4 \times 2) \times 3 = 8 \times 3 = 24$
   $4 \times (2 \times 3) = 4 \times 6 = 24$

4. $(5 \times 3) \times 3 = \underline{?}$, or $5 \times (3 \times 3) = \underline{?}$
   $(5 \times 3) \times 3 = 15 \times 3 = 45$
   $5 \times (3 \times 3) = 5 \times 9 = 45$

5. $(2 \times 2) \times 8 = \underline{?}$, or $2 \times (2 \times 8) = \underline{?}$
   $(2 \times 2) \times 8 = 4 \times 8 = 32$
   $2 \times (2 \times 8) = 2 \times 16 = 32$

6. $(4 \times 3) \times 3 = \underline{?}$, or $4 \times (3 \times 3) = \underline{?}$
   $(4 \times 3) \times 3 = 12 \times 3 = 36$
   $4 \times (3 \times 3) = 4 \times 9 = 36$

7. $(5 \times 2) \times 2 = \underline{?}$, or $5 \times (2 \times 2) = \underline{?}$
   $(5 \times 2) \times 2 = 10 \times 2 = 20$
   $5 \times (2 \times 2) = 5 \times 4 = 20$

8. $(2 \times 6) \times 1 = \underline{?}$, or $2 \times (6 \times 1) = \underline{?}$
   $(2 \times 6) \times 1 = 12 \times 1 = 12$
   $2 \times (6 \times 1) = 2 \times 6 = 12$

Name _____

Help | Practice Buddy | Tools | Games

Homework & Practice 3-1
Mental Math: Multiply by Multiples of 10, 100, and 1,000

Another Look!

Use basic facts to multiply by multiples 10, 100, and 1,000.

$3 \times 7 = 21$	$8 \times 3 = 24$	$9 \times 5 = 45$
$3 \times 70 = 210$	$8 \times 30 = 240$	$9 \times 50 = 450$
$3 \times 700 = 2{,}100$	$8 \times 300 = 2{,}400$	$9 \times 500 = 4{,}500$

When one factor of a multiplication problem is a multiple of 10, first solve the basic multiplication fact. Then write the same number of zeros as in the factor that is a multiple of 10. For example:

$4 \times 5 = 20$ $\quad$ $4 \times 50 = 200$ $\quad$ $4 \times 500 = 2{,}000$

For **1–18**, find each product.

1. $8 \times 20 = 160$
   $8 \times 200 = 1{,}600$
   $8 \times 2{,}000 = 16{,}000$

2. $9 \times 40 = 360$
   $9 \times 400 = 3{,}600$
   $9 \times 4{,}000 = 36{,}000$

3. $3 \times 90 = 270$
   $3 \times 900 = 2{,}700$
   $3 \times 9{,}000 = 27{,}000$

4. $7 \times 60 = 420$
   $7 \times 600 = 4{,}200$
   $7 \times 6{,}000 = 42{,}000$

5. $5 \times 70 = 350$
   $5 \times 700 = 3{,}500$
   $5 \times 7{,}000 = 35{,}000$

6. $2 \times 40 = 80$
   $2 \times 400 = 800$
   $2 \times 4{,}000 = 8{,}000$

7. 3×40
   120

8. $3{,}000 \times 9$
   27,000

9. 80×3
   240

10. $8{,}000 \times 5$
    40,000

11. $8 \times 7{,}000$
    56,000

12. 2×90
    180

13. $3{,}000 \times 4$
    12,000

14. $7 \times 6{,}000$
    42,000

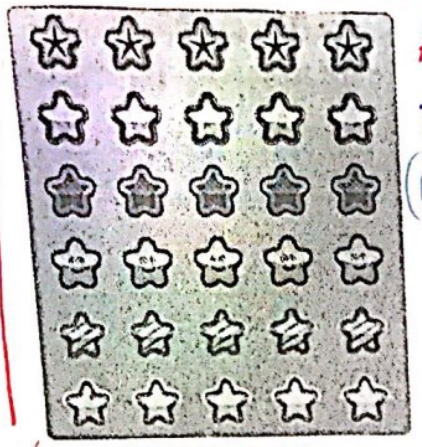
15. $5{,}000 \times 6$
    30,000

16. 2×800
    1,600

17. 90×8
    720

18. $3{,}000 \times 6$
    18,000

. Adele has 6 sheets of stickers. Bea has 9 sheets of the same stickers. How many stickers do they have altogether?



Adele = 6x30
Bea = 9x30
(6x30)+(9x30)=
180 + 270 =
450 stickers

6 x 5 = 30 per sheet

20. Algebra There were 4 times the number of students in fourth grade at the basketball game. How many students attended the basketball game? Write and solve an equation.

DATA

School Population

Grade	Number of Students
Fourth Grade	50
Fifth Grade	54
Sixth Grade	60

4 x 50 = 200 students

21. MP.4 Model with Math Jenna saved $100. She wants to buy 6 games that cost $20 each. Does Jenna have enough money? Explain. complete sentence! (I will check!)

t total cost of games

$20	$20	$20	$20	$20	$20

Cost of each game

100 ___ 6x20 compare

Jenna _____ have enough money because _____.

22. Higher Order Thinking Mr. Young has 30 times as many pencils as Jack. The whole school has 200 times as many pencils as Jack. If Jack has 2 pencils, how many pencils does Mr. Young have? How many pencils does the whole school have?

Y = 30x2, Y = 60

Mr. Young has 60 pencils.

S = 200x2, S = 400

The whole school has 400 pencils.

Common Core Assessment

23. How many zeros will be in the product of 7 × 5,000?

Part A

Without calculating the answer, explain how to use place-value strategies or the Associative Property to find the number of zeros in the product. complete sentence!

check w/ Ms. N!

Part B

Without calculating the answer, explain how to use patterns or basic facts to find the number of zeros in the product. complete sentence!

check w/ Ms. N!