CHAPTER 7 Multiplication

Lesson 7.1 Mental Multiplication

Multiply mentally.

1. $4 \times 3 =$ _____

2. $5 \times 7 =$ _____

3. $9 \times 2 =$ _____

4. $8 \times 3 =$ _____

5. $7 \times 6 =$ _____

6. $4 \times 9 =$ _____

7. $10 \times 3 =$ _____

8. $8 \times 5 =$ _____

9. $6 \times 9 =$ _____

10. $7 \times 7 =$ _____

11. $8 \times 8 =$ _____

12. $9 \times 9 =$ _____

Multiply mentally. Fill in the missing numbers.

13. $4 \times 60 = 4 \times 6$ tens

   $=$ _____ tens

   $=$ _____

14. $4 \times 600 = 4 \times 6$ hundreds

   $=$ _____ hundreds

   $=$ _____

15. $7 \times 80 = 7 \times 8$ tens

   $=$ _____ tens

   $=$ _____

16. $7 \times 800 = 7 \times 8$ hundreds

   $=$ _____ hundreds

   $=$ _____

17. $9 \times 50 = 9 \times 5$ tens

         = _____ tens

         = _____

18. $9 \times 500 = 9 \times 5$ hundreds

         = _____ hundreds

         = _____

Multiply mentally.

19. $3 \times 40 =$ _____

20. $3 \times 400 =$ _____

21. $4 \times 50 =$ _____

22. $4 \times 500 =$ _____

23. $4 \times 80 =$ _____

24. $4 \times 800 =$ _____

25. $5 \times 90 =$ _____

26. $5 \times 900 =$ _____

27. $6 \times 60 =$ _____

28. $6 \times 600 =$ _____

29. $8 \times 80 =$ _____

30. $8 \times 800 =$ _____

31. $7 \times 30 =$ _____

32. $7 \times 300 =$ _____

33. $7 \times 90 =$ _____

34. $7 \times 900 =$ _____

35. $8 \times 20 =$ _____

36. $8 \times 200 =$ _____

37. $9 \times 40 =$ _____

38. $9 \times 400 =$ _____

39. $9 \times 90 =$ _____

40. $9 \times 900 =$ _____

Name: _____   **Date:** _____

Lesson 7.2   Multiplying Without Regrouping

Fill in the missing numbers.

1.   22 × 4 = ?

_____ ones × 4 = _____ ones

_____ tens × 4 = _____ tens

```
    2   2
×       4
┌─────────┐
│         │
└─────────┘
```

2.   31 × 3 = ?

_____ one × 3 = _____ ones

_____ tens × 3 = _____ tens

```
    3   1
×       3
┌─────────┐
│         │
└─────────┘
```

3.   43 × 2 = ?

_____ ones × 2 = _____ ones

_____ tens × 2 = _____ tens

```
    4   3
×       2
┌─────────┐
│         │
└─────────┘
```

4.   11 × 6 = ?

_____ one × 6 = _____ ones

_____ ten × 6 = _____ tens

```
    1   1
×       6
┌─────────┐
│         │
└─────────┘
```

5.   321 × 3 = ?

_____ one × 3 = _____ ones

_____ tens × 3 = _____ tens

_____ hundreds × 3 = _____ hundreds

```
  3   2   1
×         3
┌───────────┐
│           │
└───────────┘
```

6. $324 \times 2 = ?$

$$
\begin{array}{r}
3 \quad 2 \quad 4 \\
\times \qquad 2 \\
\hline
\end{array}
$$

_____ ones $\times\ 2 =$ _____ ones

_____ tens $\times\ 2 =$ _____ tens

_____ hundreds $\times\ 2 =$ _____ hundreds

Multiply.

7.
$$
\begin{array}{r}
2 \quad 4 \quad 3 \\
\times \qquad 2 \\
\hline
\end{array}
$$

8.
$$
\begin{array}{r}
1 \quad 2 \quad 2 \\
\times \qquad 4 \\
\hline
\end{array}
$$

9.
$$
\begin{array}{r}
2 \quad 0 \quad 2 \\
\times \qquad 4 \\
\hline
\end{array}
$$

10.
$$
\begin{array}{r}
1 \quad 1 \quad 0 \\
\times \qquad 5 \\
\hline
\end{array}
$$

11.
$$
\begin{array}{r}
1 \quad 0 \quad 0 \\
\times \qquad 7 \\
\hline
\end{array}
$$

12.
$$
\begin{array}{r}
1 \quad 0 \quad 1 \\
\times \qquad 9 \\
\hline
\end{array}
$$

Solve. Show your work.

13. On a visit to a museum, 44 children received souvenirs. Each child received 2 souvenirs. How many souvenirs were given away?

14. Mrs. Raja makes 21 identical hair bands for her dancers. She uses 4 flowers each for each hair band. How many flowers does Mrs. Raja use altogether?

15. Allen prepares 32 desserts. He prepares three times as many sandwiches as desserts. How many sandwiches does Allen prepare?

16. A desk costs $204.
Mrs. Tay buys two desks.
How much does Mrs. Tay pay for the desks?

Lesson 7.3   Multiplying Ones, Tens, and Hundreds with Regrouping (Part 1)

Fill in the missing numbers.

1. $176 \times 4 = ?$

Step 1   Multiply the ones by 4.

_____ ones $\times$ 4 = _____ ones

Regroup the ones.

_____ ones = _____ tens _____ ones

Step 2   Multiply the tens by 4.

_____ tens $\times$ 4 = _____ tens

Add the tens.

_____ tens + _____ tens = _____ tens

Regroup the tens.

_____ tens = _____ hundreds _____ tens

Step 3   Multiply the hundreds by 4.

_____ hundred $\times$ 4 = _____ hundreds

Add the hundreds.

_____ hundreds + _____ hundreds

= _____ hundreds

So, $176 \times 4 =$ _____.

2.   245 × 3 = ?

Step 1   Multiply the ones by 3.

_____ ones × 3 = _____ ones

Regroup the ones.

_____ ones = _____ ten _____ ones

Step 2   Multiply the tens by 3.

_____ tens × 3 = _____ tens

Add the tens.

_____ tens + _____ ten = _____ tens

Regroup the tens.

_____ tens = _____ hundred _____ tens

Step 3   Multiply the hundreds by 3.

_____ hundreds × 3 = _____ hundreds

Add the hundreds.

_____ hundreds + _____ hundred

= _____ hundreds

So, 245 × 3 = _____.

3.   147 × 4 = ?

Step 1   Multiply the ones by 4.

_____ ones × 4 = _____ ones

Regroup the ones.

_____ ones = _____ tens _____ ones

Step 2   Multiply the tens by 4.

_____ tens × 4 = _____ tens

Add the tens.

_____ tens + _____ tens = _____ tens

Regroup the tens.

_____ tens = _____ hundred _____ tens

Step 3   Multiply the hundreds by 4.

_____ hundreds × 4 = _____ hundreds

Add the hundreds.

_____ hundreds + _____ hundred

= _____ hundreds

So, 147 × 4 = _____.

Multiply.

4.   3 5 8
         ×   2
        ┌──────────┐
        │   │
        └──────────┘

5.   1 6 7
         ×   5
        ┌──────────┐
        │   │
        └──────────┘

6.   1 3 4
         ×   7
        ┌──────────┐
        │   │
        └──────────┘

7.   1 5 2
         ×   6
        ┌──────────┐
        │   │
        └──────────┘

8.   4 9 9
         ×   2
        ┌──────────┐
        │   │
        └──────────┘

9.   2 3 5
         ×   4
        ┌──────────┐
        │   │
        └──────────┘

10.   2 6 9
         ×   2
        ┌──────────┐
        │   │
        └──────────┘

11.   3 5 8
         ×   2
        ┌──────────┐
        │   │
        └──────────┘

12.
$$
\begin{array}{r}
2\ \ 4\ \ 6 \\
\times\ \ \ \ \ \ \ \ 4 \\
\hline
\end{array}
$$

13.
$$
\begin{array}{r}
1\ \ 2\ \ 7 \\
\times\ \ \ \ \ \ \ \ 5 \\
\hline
\end{array}
$$

14.
$$
\begin{array}{r}
1\ \ 2\ \ 6 \\
\times\ \ \ \ \ \ \ \ 7 \\
\hline
\end{array}
$$

15.
$$
\begin{array}{r}
1\ \ 8\ \ 5 \\
\times\ \ \ \ \ \ \ \ 5 \\
\hline
\end{array}
$$

Solve. Show your work

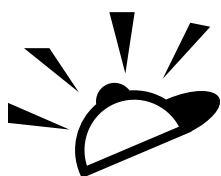**16.** Gigi saves $285 each year.
How much money will she save in 3 years?

17. Jessie imports 458 roses each month. How many roses does she import in 2 months?

18. Rafi bakes 164 snacks a day. How many snacks does he bake in 6 days?

Put on Your Thinking Cap!

Solve. Regroup the ones and tens when you multiply.

How many different solutions can you find for each of the problems below?

Example

a.
$$
\begin{array}{r}
2\ \ 0 \\
\times \quad 7 \\
\hline
1\ \ 4\ \ 0
\end{array}
$$

b.
$$
\begin{array}{r}
7\ \ 0 \\
\times \quad 2 \\
\hline
1\ \ 4\ \ 0
\end{array}
$$

c.
$$
\begin{array}{r}
3\ \ 5 \\
\times \quad 4 \\
\hline
1\ \ 4\ \ 0
\end{array}
$$

1. **a.**
$$
\begin{array}{r}
\square\ \ \square \\
\times \quad \square \\
\hline
1\ \ 1\ \ 2
\end{array}
$$

b.
$$
\begin{array}{r}
\square\ \ \square \\
\times \quad \square \\
\hline
1\ \ 1\ \ 2
\end{array}
$$

c.
$$
\begin{array}{r}
\square\ \ \square \\
\times \quad \square \\
\hline
1\ \ 1\ \ 2
\end{array}
$$

2. **a.**
$$
\begin{array}{r}
\square\ \ \square \\
\times \quad \square \\
\hline
1\ \ 3\ \ 6
\end{array}
$$

b.
$$
\begin{array}{r}
\square\ \ \square \\
\times \quad \square \\
\hline
1\ \ 3\ \ 6
\end{array}
$$

c.
$$
\begin{array}{r}
\square\ \ \square \\
\times \quad \square \\
\hline
1\ \ 3\ \ 6
\end{array}
$$

Arrange the numbers

3. How many different 3-digit numbers can you make using the numbers below

<div align="center">

8   6   5

</div>

a. if you can use each digit once only?

b. if you can use each digit more than once?

4. Find the greatest product and the smallest product by using the following four digits. Use each digit only once.

<div align="center">

8   5   4   6

</div>

a. The greatest product

☐ ☐ ☐
×   ☐

b. The smallest product

☐ ☐ ☐
×   ☐