

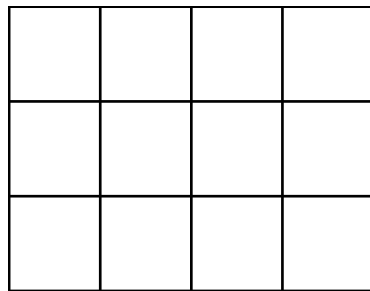
More
Practice for
this difficult
concept!

3rd Grade

3.OA.5

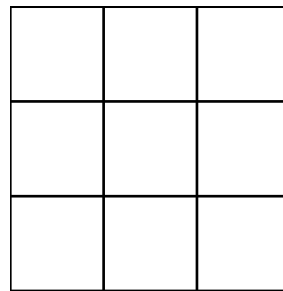
Distributive Property

Activities, Games, Practice and
Review



(3×4)

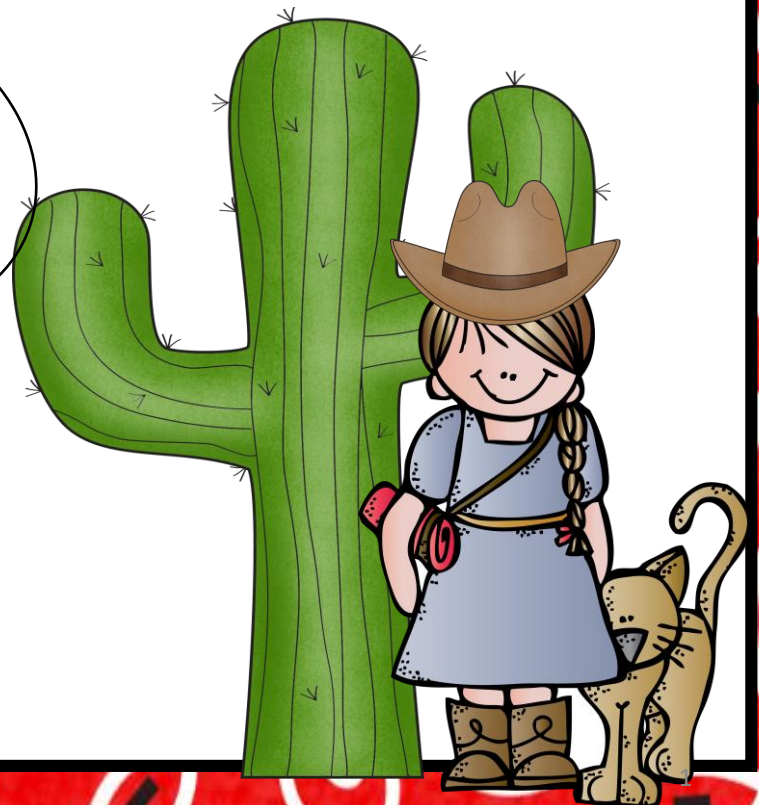
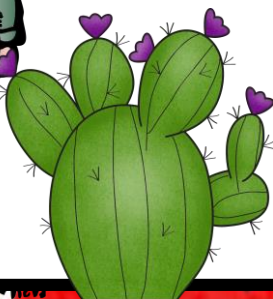
+



(3×3)

= (3×7)

How do
you like
them
groups!



About This Unit

Help your 3rd graders master the concept of the distributive property of multiplication. By understanding the distributive property, students can break down more difficult facts, become adept at mental math and easily multiply two-digit by one-digit problems without using the standard algorithm.

Starting with **Using What We Know**, students use multiples of 5 to decompose multiplication problems.

Students use a doubling strategy in **Distribute With Doubling. Array Match-Up** is an independent or small group activity to help students visualizing the distributive property of multiplication with arrays while representing the distributive property with number sentences.

Using the Distributive Property students used their distributive skills and their knowledge of multiplication facts to solve 2-digit by 1-digit problems. **Using the Distributive Property with Area** uses an area model to show how the distributive property works with area. Answer key included!

Follow me at **Math – It Works** for more Common Core Math activities, assessments and games.

Using What We Know

Use multiples of 5 to help you find the products below.

5	10	15	20	25	30	35	40	45	50	55	60
---	----	----	----	----	----	----	----	----	----	----	----

$$6 \times 7$$

$$6 \begin{cases} 5 = \\ 2 = \end{cases} \quad 30 + 12 = 42$$

You try it!

$$6 \times 8$$

$$6 \begin{cases} 5 = \\ ___ = \end{cases} \quad ___ + ___ = ___$$

$$7 \times 8$$

$$\square \begin{cases} ___ = \\ ___ = \end{cases} \quad ___ + ___ = ___$$

$$9 \times 6$$

$$\square \begin{cases} ___ = \\ ___ = \end{cases} \quad ___ + ___ = ___$$

$$8 \times 7$$

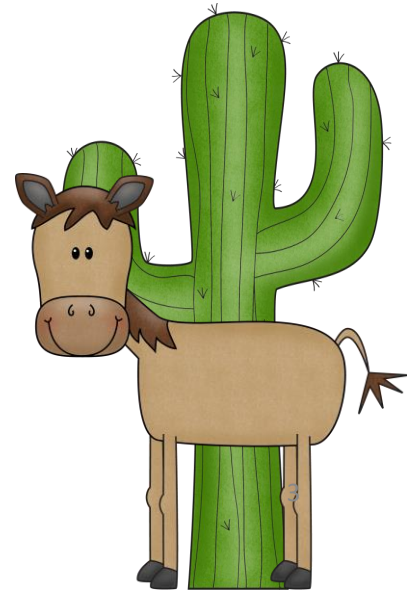
$$\square \begin{cases} ___ = \\ ___ = \end{cases} \quad ___ + ___ = ___$$

$$7 \times 7$$

$$\square \begin{cases} ___ = \\ ___ = \end{cases} \quad ___ + ___ = ___$$

$$9 \times 8$$

$$\square \begin{cases} ___ = \\ ___ = \end{cases} \quad ___ + ___ = ___$$



More Practice Decomposing to 5

Use multiples of 5 to help you find the products below.

5	10	15	20	25	30	35	40	45	50	55	60
---	----	----	----	----	----	----	----	----	----	----	----

$$7 \times 9$$

$$\boxed{} \begin{array}{l} \nearrow = \\ \searrow = \end{array} \quad + = $$

$$6 \times 7$$

$$\boxed{} \begin{array}{l} \nearrow = \\ \searrow = \end{array} \quad + = $$

$$8 \times 9$$

$$\boxed{} \begin{array}{l} \nearrow = \\ \searrow = \end{array} \quad + = $$

$$9 \times 7$$

$$\boxed{} \begin{array}{l} \nearrow = \\ \searrow = \end{array} \quad + = $$

$$8 \times 8$$

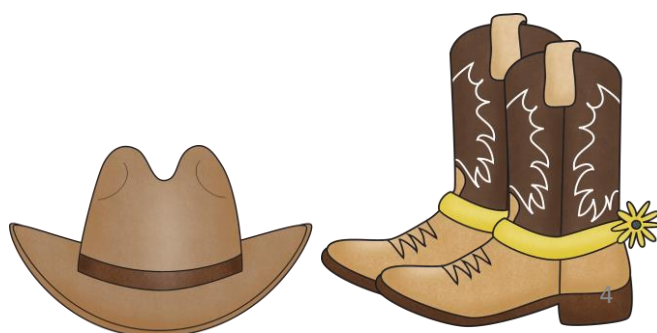
$$\boxed{} \begin{array}{l} \nearrow = \\ \searrow = \end{array} \quad + = $$

$$6 \times 9$$

$$\boxed{} \begin{array}{l} \nearrow = \\ \searrow = \end{array} \quad + = $$

$$9 \times 9$$

$$\boxed{} \begin{array}{l} \nearrow = \\ \searrow = \end{array} \quad + = $$



Distribute with Doubling

Use the strategy of doubling to help you find the products below.

$$6 \times 8$$

$$6 \begin{cases} \nearrow 4 = \\ \searrow 4 = \end{cases} \quad 24 + 24 = 48$$

You try it!

$$7 \times 6$$

$$7 \begin{cases} \nearrow 3 = \\ \searrow \quad = \end{cases} \quad \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$5 \times 6$$

$$\square \begin{cases} \nearrow \quad = \\ \searrow \quad = \end{cases} \quad \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$7 \times 8$$

$$\square \begin{cases} \nearrow \quad = \\ \searrow \quad = \end{cases} \quad \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$8 \times 8$$

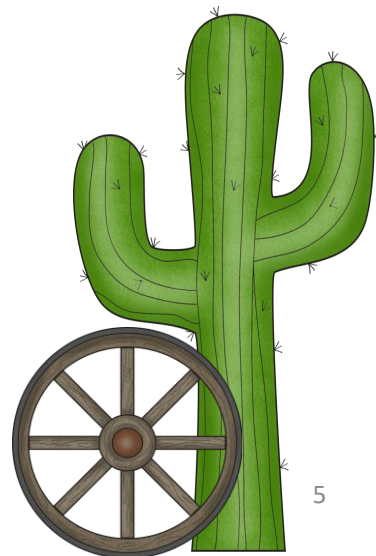
$$\square \begin{cases} \nearrow \quad = \\ \searrow \quad = \end{cases} \quad \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$9 \times 6$$

$$\square \begin{cases} \nearrow \quad = \\ \searrow \quad = \end{cases} \quad \underline{\quad} + \underline{\quad} = \underline{\quad}$$


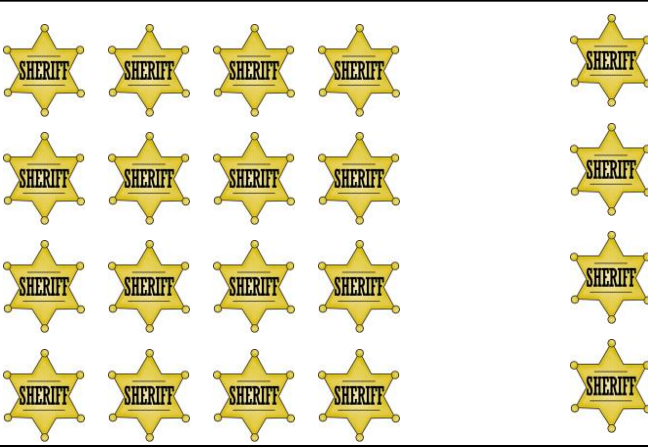
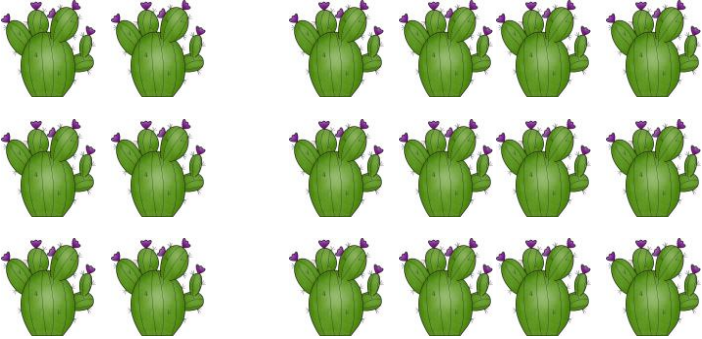

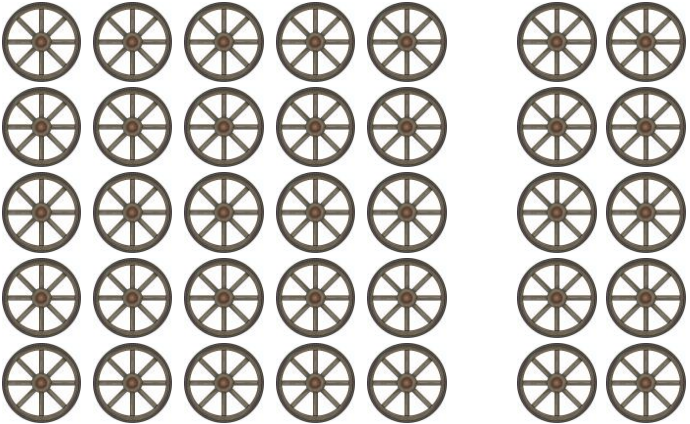
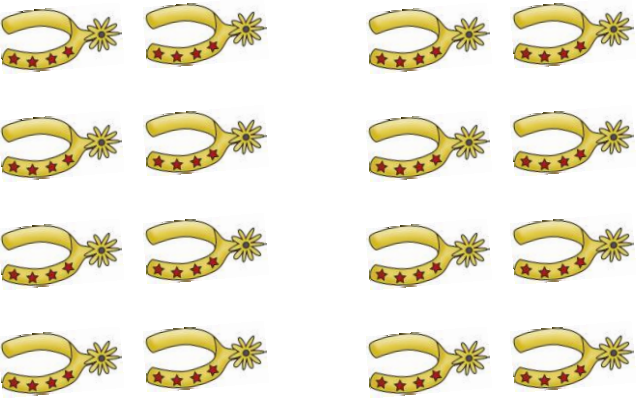

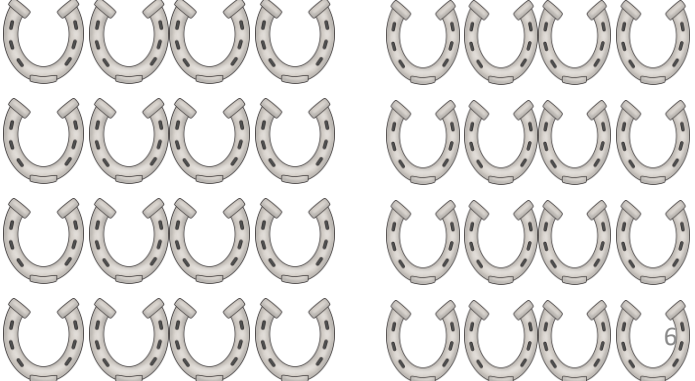
$$6 \times 6$$

$$\square \begin{cases} \nearrow \quad = \\ \searrow \quad = \end{cases} \quad \underline{\quad} + \underline{\quad} = \underline{\quad}$$



Array Match-Up

Match each array card to the matching number sentence card.

 <p>1</p>	 <p>2</p>
 <p>3</p>	 <p>4</p>
 <p>5</p>	 <p>6</p>
 <p>7</p>	 <p>8</p>

Array Match-Up

Match each number sentence card to the matching array card.

$$(6 \times 3) + (6 \times 2)$$

$$(4 \times 4) + (4 \times 1)$$

$$(3 \times 2) + (3 \times 4)$$

$$(2 \times 2) + (2 \times 2)$$

$$(5 \times 5) + (5 \times 2)$$

$$(4 \times 2) + (4 \times 2)$$

$$(3 \times 4) + (3 \times 3)$$

$$(4 \times 4) + (4 \times 4)$$

Array Match-Up

Match each equation card to the matching array and number sentence card.

$$18 + 12 = 30$$

$$16 + 4 = 20$$

$$6 + 12 = 18$$

$$4 + 4 = 8$$

$$25 + 10 = 35$$

$$8 + 8 = 16$$

$$12 + 9 = 21$$

$$16 + 16 = 32$$

Using the Distributive Property

Solve each problem below using distribution.

$$\begin{array}{r}
 14 \\
 \times 6 \\
 \hline
 \end{array}
 =
 \begin{array}{r}
 10 \\
 \times 6 \\
 \hline
 60
 \end{array}
 +
 \begin{array}{r}
 4 \\
 \times 6 \\
 \hline
 24
 \end{array}
 = 84$$

$$\begin{array}{r}
 12 \\
 \times 7 \\
 \hline
 \end{array}
 = \boxed{} + \boxed{} =$$

$$\begin{array}{r}
 15 \\
 \times 8 \\
 \hline
 \end{array}
 = \boxed{} + \boxed{} =$$

$$\begin{array}{r}
 12 \\
 \times 9 \\
 \hline
 \end{array}
 = \boxed{} + \boxed{} =$$

$$\begin{array}{r}
 13 \\
 \times 6 \\
 \hline
 \end{array}
 = \boxed{} + \boxed{} =$$

$$\begin{array}{r}
 18 \\
 \times 4 \\
 \hline
 \end{array}
 = \boxed{} + \boxed{} =$$



Using the Distributive Property 2

Solve each problem below using distribution.

$$\begin{array}{r} 19 \\ \times 7 \\ \hline \end{array}$$

=

+

=

$$\begin{array}{r} 17 \\ \times 7 \\ \hline \end{array}$$

=

+

=

$$\begin{array}{r} 15 \\ \times 6 \\ \hline \end{array}$$

=

+

=

$$\begin{array}{r} 18 \\ \times 9 \\ \hline \end{array}$$

=

+

=

$$\begin{array}{r} 13 \\ \times 5 \\ \hline \end{array}$$

=

+

=

$$\begin{array}{r} 16 \\ \times 4 \\ \hline \end{array}$$

=

+

=



Using the Distributive Property

Solve each problem below using distribution.

$$12 \times 7 = \underline{70} + \underline{14} = \underline{84}$$

$$16 \times 3 = \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$19 \times 4 = \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$14 \times 8 = \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$18 \times 2 = \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$14 \times 6 = \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$15 \times 5 = \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$13 \times 9 = \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$11 \times 7 = \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$18 \times 5 = \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$16 \times 4 = \underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$15 \times 3 = \underline{\quad} + \underline{\quad} = \underline{\quad}$$

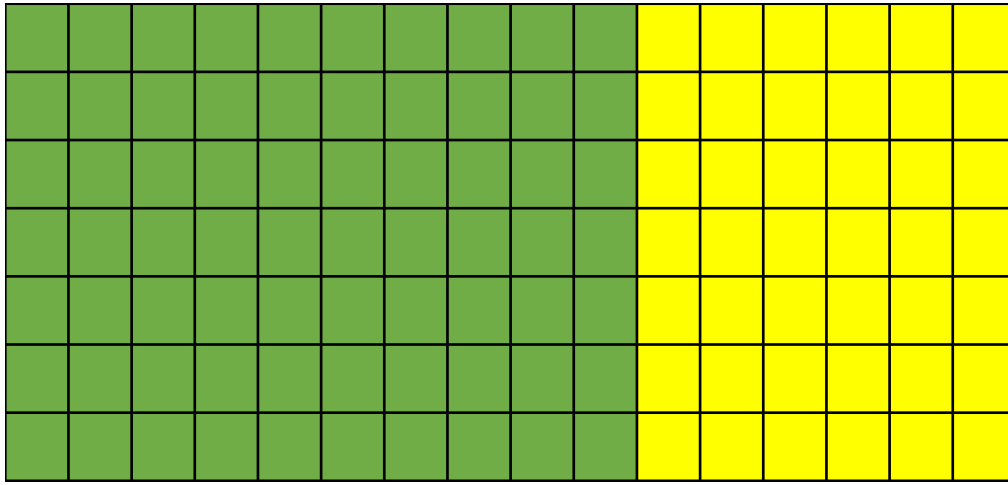


Using the Distributive Property with Area

Use the example below to find the number of square units.

$$16 \times 7$$

7



10

6

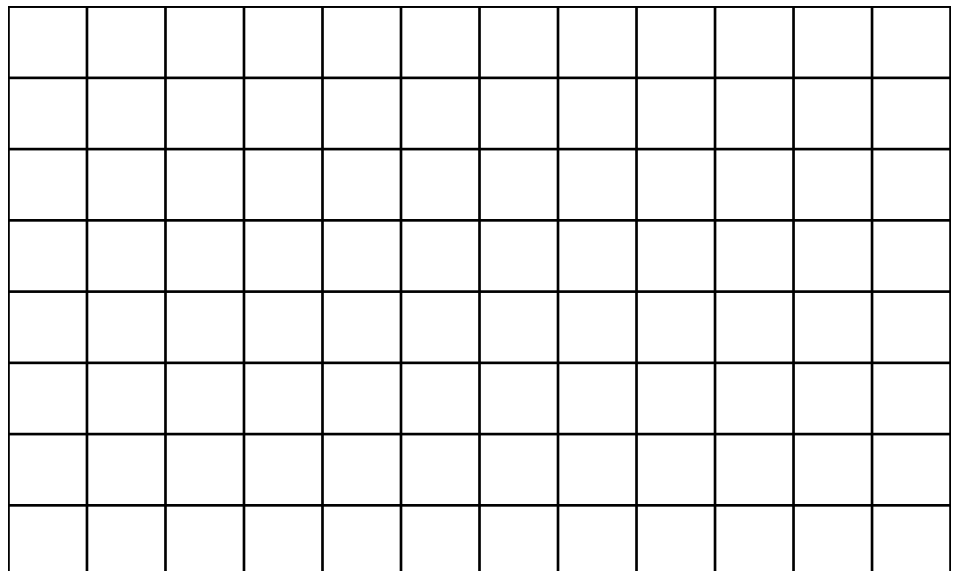
$$7 \times 10 = 70$$

$$7 \times 6 = 42$$

$$70 + 42 = 112$$

$$12 \times 8$$

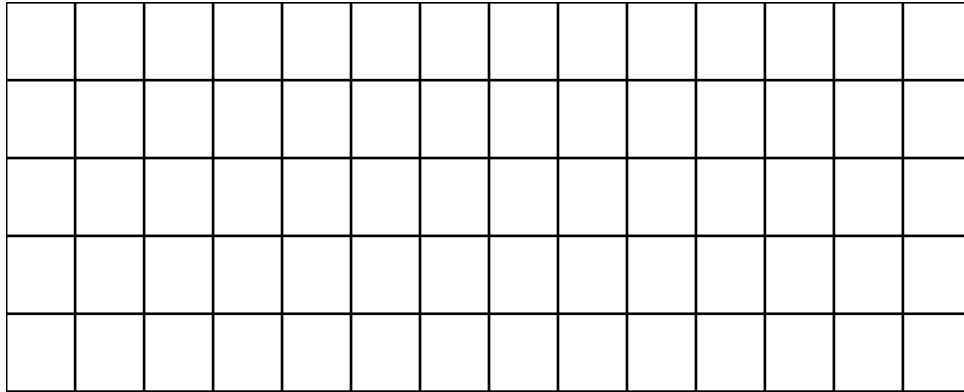
8



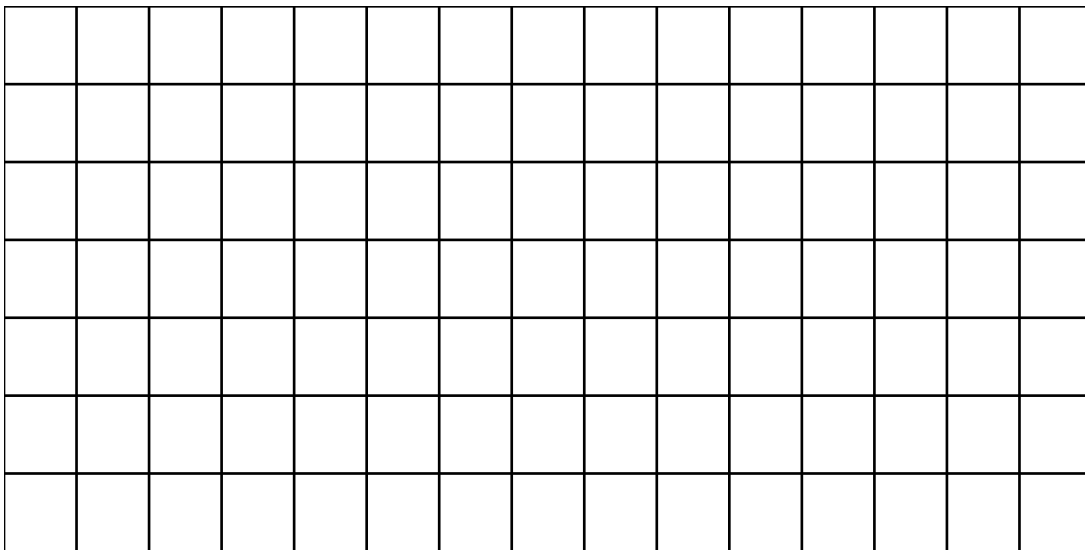
$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

More Practice Using the Distributive Property with Area

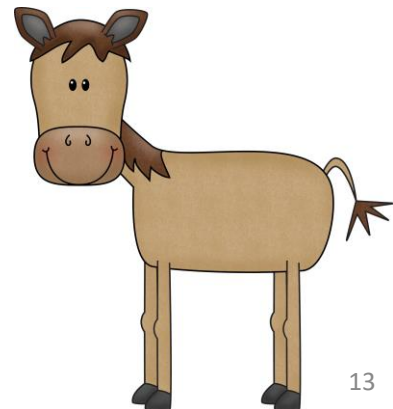
Use the distributive property find the area of each rectangle below.



$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$
$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$



$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$
$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

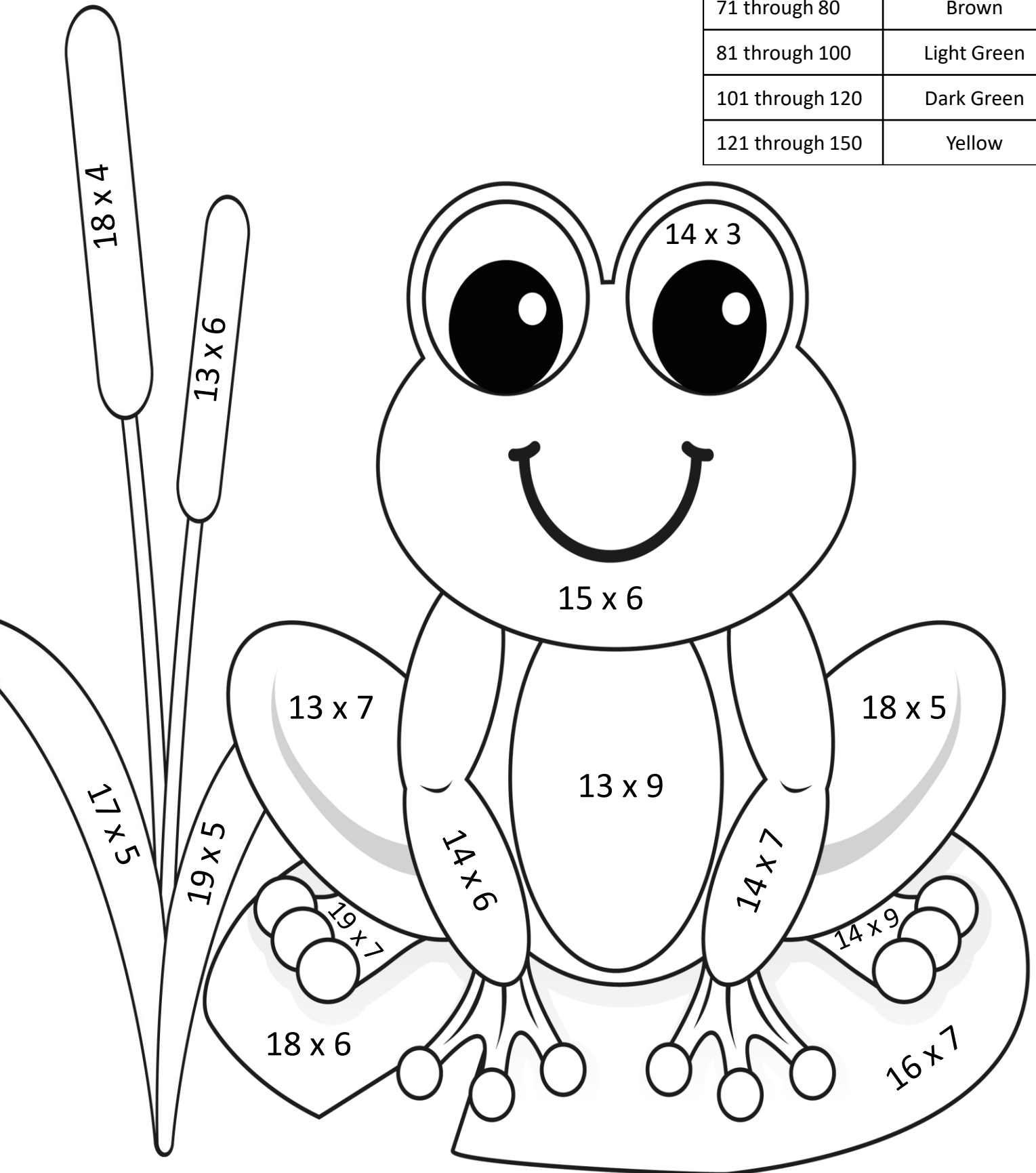


Hopping Along with Distribution

Use the distributive property to solve the multiplication equations below.

If the product is: Then color it:

60 through 70	White
71 through 80	Brown
81 through 100	Light Green
101 through 120	Dark Green
121 through 150	Yellow

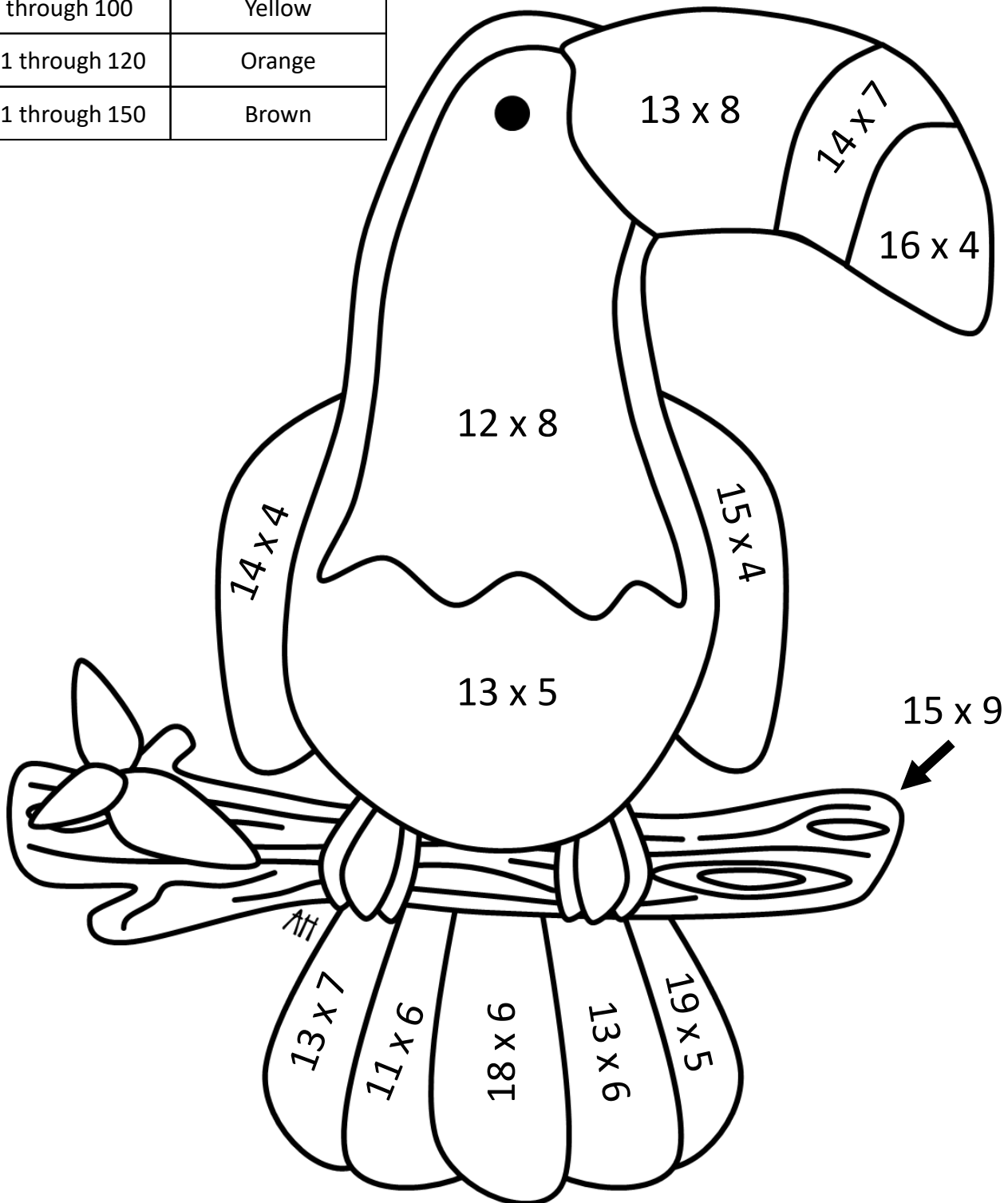


Hopping Along with Distribution

Use the distributive property to solve the multiplication equations below.

If the product is: Then color it:

50 through 70	Blue
71 through 80	Red
81 through 100	Yellow
101 through 120	Orange
121 through 150	Brown



Using What We Know

ANSWER KEY

Use multiples of 5 to help you find the products below.

5	10	15	20	25	30	35	40	45	50	55	60
---	----	----	----	----	----	----	----	----	----	----	----

$$6 \times 7$$

$$6 \begin{cases} \nearrow 5 = \\ \searrow 2 = \end{cases} \quad 30 + 12 = 42$$

You try it!

$$6 \times 8$$

$$6 \begin{cases} \nearrow 5 = \\ \searrow 3 = \end{cases} \quad \underline{30} + \underline{18} = \underline{48}$$

$$7 \times 8$$

$$7 \begin{cases} \nearrow 5 = \\ \searrow 3 = \end{cases} \quad \underline{35} + \underline{21} = \underline{56}$$

$$9 \times 6$$

$$9 \begin{cases} \nearrow 5 = \\ \searrow 1 = \end{cases} \quad \underline{45} + \underline{9} = \underline{54}$$

$$8 \times 7$$

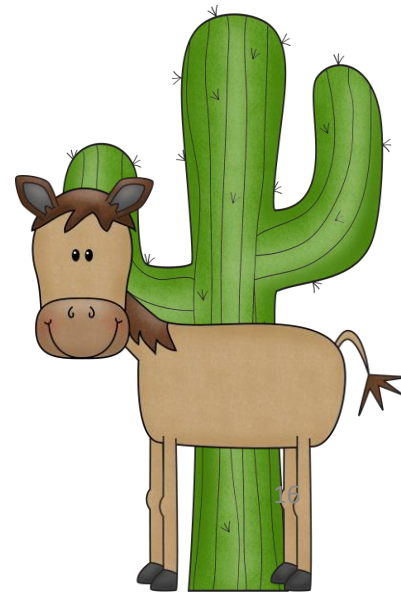
$$8 \begin{cases} \nearrow 5 = \\ \searrow 2 = \end{cases} \quad \underline{40} + \underline{16} = \underline{56}$$

$$7 \times 7$$

$$7 \begin{cases} \nearrow 5 = \\ \searrow 2 = \end{cases} \quad \underline{35} + \underline{14} = \underline{49}$$

$$9 \times 8$$

$$9 \begin{cases} \nearrow 5 = \\ \searrow 3 = \end{cases} \quad \underline{45} + \underline{27} = \underline{72}$$



More Practice Decomposing to 5

ANSWER KEY

Use multiples of 5 to help you find the products below.

5	10	15	20	25	30	35	40	45	50	55	60
---	----	----	----	----	----	----	----	----	----	----	----

$$7 \times 9$$

$$\begin{array}{l} 7 \\ \swarrow \quad \searrow \\ \frac{5}{=} \quad \frac{4}{=} \end{array} \quad \frac{35}{=} + \frac{28}{=} = \frac{63}{=}$$

$$6 \times 7$$

$$\begin{array}{l} 6 \\ \swarrow \quad \searrow \\ \frac{5}{=} \quad \frac{2}{=} \end{array} \quad \frac{30}{=} + \frac{12}{=} = \frac{42}{=}$$

$$8 \times 9$$

$$\begin{array}{l} 8 \\ \swarrow \quad \searrow \\ \frac{5}{=} \quad \frac{4}{=} \end{array} \quad \frac{40}{=} + \frac{32}{=} = \frac{72}{=}$$

$$9 \times 7$$

$$\begin{array}{l} 9 \\ \swarrow \quad \searrow \\ \frac{5}{=} \quad \frac{2}{=} \end{array} \quad \frac{45}{=} + \frac{18}{=} = \frac{63}{=}$$

$$8 \times 8$$

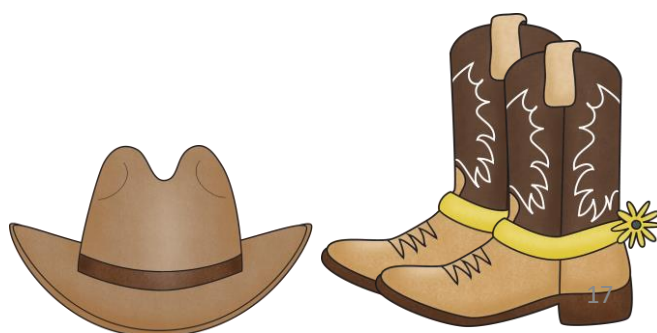
$$\begin{array}{l} 8 \\ \swarrow \quad \searrow \\ \frac{5}{=} \quad \frac{3}{=} \end{array} \quad \frac{40}{=} + \frac{24}{=} = \frac{64}{=}$$

$$6 \times 9$$

$$\begin{array}{l} 6 \\ \swarrow \quad \searrow \\ \frac{5}{=} \quad \frac{4}{=} \end{array} \quad \frac{30}{=} + \frac{24}{=} = \frac{54}{=}$$

$$9 \times 9$$

$$\begin{array}{l} 9 \\ \swarrow \quad \searrow \\ \frac{5}{=} \quad \frac{4}{=} \end{array} \quad \frac{45}{=} + \frac{36}{=} = \frac{81}{=}$$



Use the strategy of doubling to help you find the products below.

$$6 \times 8$$

$$6 \begin{cases} \nearrow 4 = \\ \searrow 4 = \end{cases} \quad 24 + 24 = 48$$

You try it!

$$7 \times 6$$

$$7 \begin{cases} \nearrow 3 = \\ \searrow 3 = \end{cases} \quad \underline{21} + \underline{21} = \underline{42}$$

$$5 \times 6$$

$$5 \begin{cases} \nearrow 3 = \\ \searrow 3 = \end{cases} \quad \underline{15} + \underline{15} = \underline{30}$$

$$7 \times 8$$

$$7 \begin{cases} \nearrow 4 = \\ \searrow 4 = \end{cases} \quad \underline{28} + \underline{28} = \underline{56}$$

$$8 \times 8$$

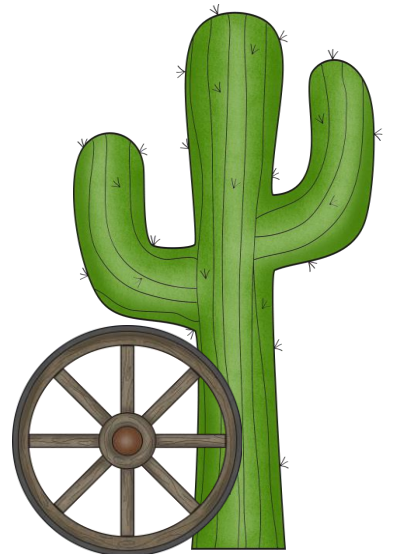
$$8 \begin{cases} \nearrow 4 = \\ \searrow 4 = \end{cases} \quad \underline{32} + \underline{32} = \underline{64}$$

$$9 \times 6$$

$$9 \begin{cases} \nearrow 3 = \\ \searrow 3 = \end{cases} \quad \underline{27} + \underline{27} = \underline{54}$$

$$6 \times 6$$

$$6 \begin{cases} \nearrow 3 = \\ \searrow 3 = \end{cases} \quad \underline{18} + \underline{18} = \underline{36}$$



Solve each problem below using distribution.

$$\begin{array}{r}
 14 \\
 \times 6 \\
 \hline
 \end{array}
 =
 \begin{array}{r}
 10 \\
 \times 6 \\
 \hline
 60
 \end{array}
 +
 \begin{array}{r}
 4 \\
 \times 6 \\
 \hline
 24
 \end{array}
 = 84$$

$$\begin{array}{r}
 12 \\
 \times 7 \\
 \hline
 \end{array}
 =
 \begin{array}{r}
 10 \\
 \times 7 \\
 \hline
 70
 \end{array}
 +
 \begin{array}{r}
 2 \\
 \times 7 \\
 \hline
 14
 \end{array}
 = 84$$

$$\begin{array}{r}
 15 \\
 \times 8 \\
 \hline
 \end{array}
 =
 \begin{array}{r}
 10 \\
 \times 8 \\
 \hline
 80
 \end{array}
 +
 \begin{array}{r}
 5 \\
 \times 8 \\
 \hline
 40
 \end{array}
 = 120$$

$$\begin{array}{r}
 12 \\
 \times 9 \\
 \hline
 \end{array}
 =
 \begin{array}{r}
 10 \\
 \times 9 \\
 \hline
 90
 \end{array}
 +
 \begin{array}{r}
 2 \\
 \times 9 \\
 \hline
 18
 \end{array}
 = 108$$

$$\begin{array}{r}
 13 \\
 \times 6 \\
 \hline
 \end{array}
 =
 \begin{array}{r}
 10 \\
 \times 6 \\
 \hline
 60
 \end{array}
 +
 \begin{array}{r}
 3 \\
 \times 6 \\
 \hline
 18
 \end{array}
 = 78$$

$$\begin{array}{r}
 18 \\
 \times 4 \\
 \hline
 \end{array}
 =
 \begin{array}{r}
 10 \\
 \times 4 \\
 \hline
 40
 \end{array}
 +
 \begin{array}{r}
 8 \\
 \times 4 \\
 \hline
 32
 \end{array}
 = 72$$



Solve each problem below using distribution.

$$\begin{array}{r} 19 \\ \times 7 \\ \hline \end{array}$$

$$= 70 + 63 = 133$$

$$\begin{array}{r} 17 \\ \times 7 \\ \hline \end{array}$$

$$= 70 + 49 = 119$$

$$\begin{array}{r} 15 \\ \times 6 \\ \hline \end{array}$$

$$= 60 + 30 = 90$$

$$\begin{array}{r} 18 \\ \times 9 \\ \hline \end{array}$$

$$= 90 + 72 = 162$$

$$\begin{array}{r} 13 \\ \times 5 \\ \hline \end{array}$$

$$= 50 + 15 = 65$$

$$\begin{array}{r} 16 \\ \times 4 \\ \hline \end{array}$$

$$= 40 + 24 = 64$$



Using the Distributive Property

ANSWER KEY

Solve each problem below using distribution.

$$12 \times 7 = \underline{70} + \underline{14} = \underline{84}$$

$$16 \times 3 = \underline{30} + \underline{18} = \underline{48}$$

$$19 \times 4 = \underline{40} + \underline{36} = \underline{76}$$

$$14 \times 8 = \underline{80} + \underline{32} = \underline{112}$$

$$18 \times 2 = \underline{20} + \underline{16} = \underline{36}$$

$$14 \times 6 = \underline{60} + \underline{24} = \underline{84}$$

$$15 \times 5 = \underline{50} + \underline{25} = \underline{75}$$

$$13 \times 9 = \underline{90} + \underline{27} = \underline{117}$$

$$11 \times 7 = \underline{70} + \underline{7} = \underline{77}$$

$$18 \times 5 = \underline{50} + \underline{40} = \underline{90}$$

$$16 \times 4 = \underline{40} + \underline{24} = \underline{64}$$

$$15 \times 3 = \underline{30} + \underline{15} = \underline{45}$$



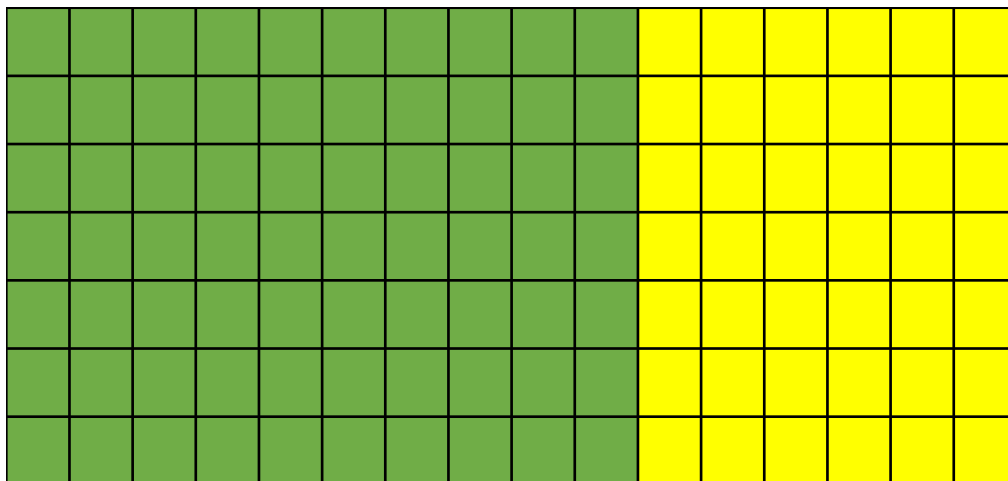
Using the Distributive Property with Area

ANSWER KEY

Use the example below to find the number of square units.

$$16 \times 7$$

7



10

6

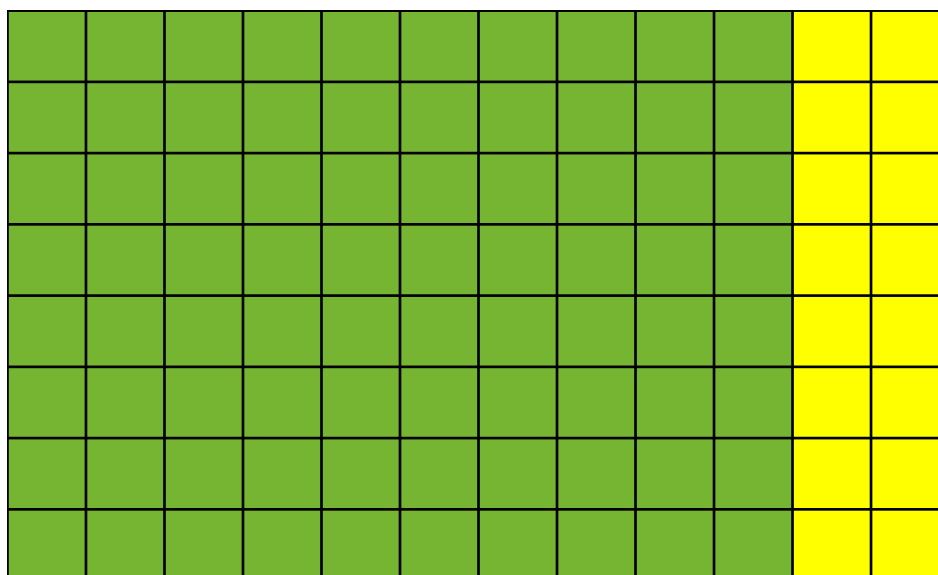
$$7 \times 10 = 70$$

$$7 \times 6 = 42$$

$$70 + 42 = 112$$

$$12 \times 8$$

8



10

2

$$8 \times 10 = 80$$

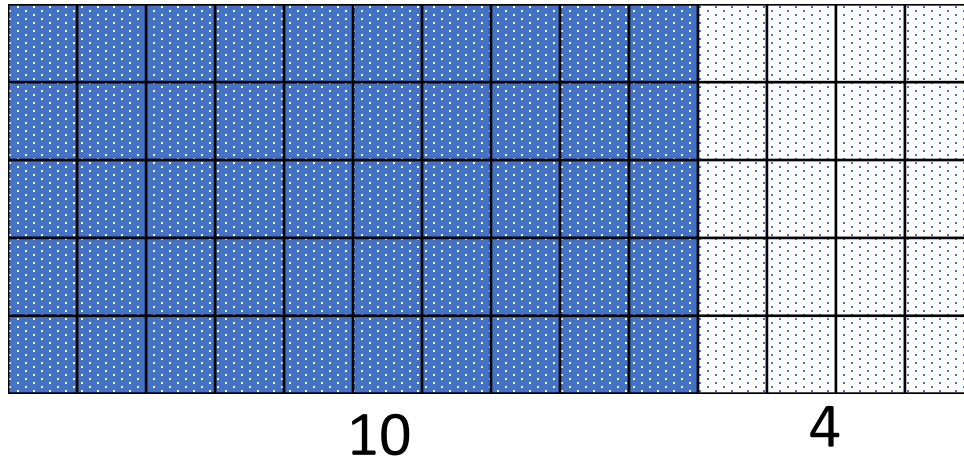
$$8 \times 2 = 16$$

$$80 + 16 = 96$$



Use the distributive property find the area of each rectangle below.

5

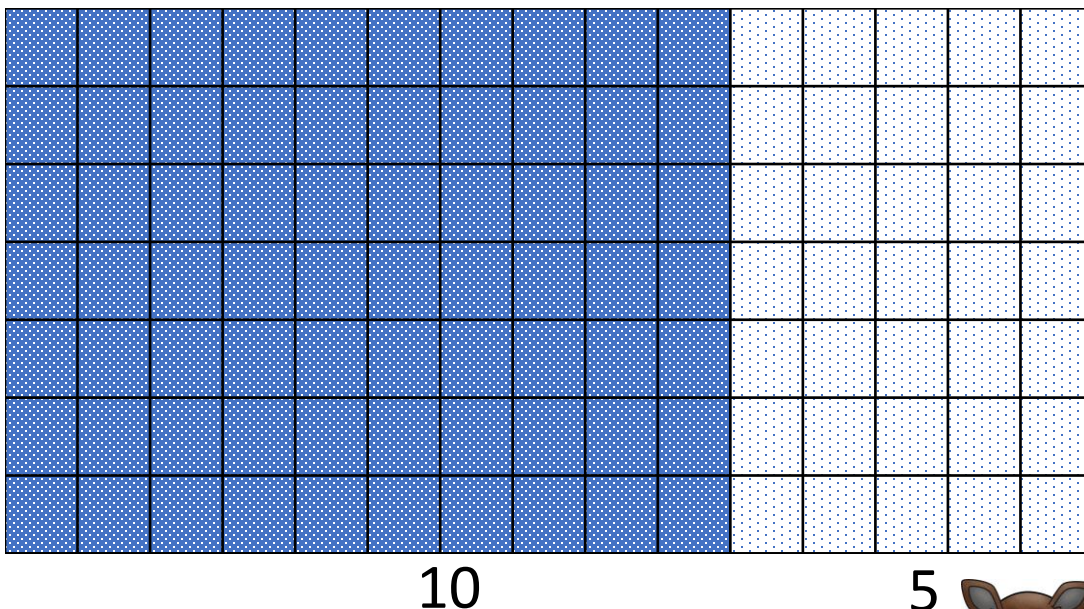


$$\underline{5 \times 10 = 50}$$

$$\underline{5 \times 4 = 20}$$

$$\underline{50} + \underline{20} = \underline{70}$$

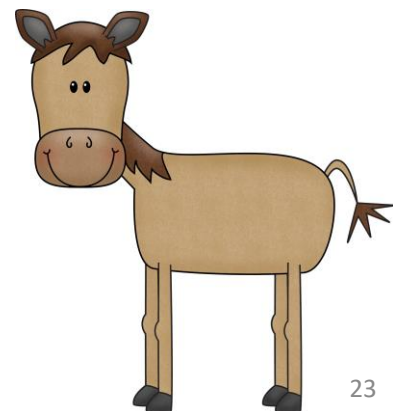
7



$$\underline{7 \times 10 = 70}$$

$$\underline{7 \times 5 = 35}$$

$$\underline{70} + \underline{35} = \underline{105}$$



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