

MY Homework

Lesson 5

Multiply by 9

Homework Helper



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Delia counted 9 petals on each flower she picked. If she picked 3 flowers, how many petals are there in all?

Find 3×9 .

One Way Subtract from a known 10s fact.

$3 \times 10 = 30$

$$\begin{array}{r} 30 \\ - 3 \\ \hline 27 \end{array}$$

Another Way Use patterns.

Starting with the product 18, the multiples of 9 follow a pattern. The tens digit in each product is 1 less than the factor that is not 9. The sum of the digits in the product is 9.

$$3 - 1 = 2$$

$$3 \times 9 = 27$$

$$2 + 7 = 9$$

So, there are 27 petals in all.

Practice

Use the Commutative Property to find each product or missing factor.

1. $\begin{array}{r} 9 \\ \times 7 \\ \hline 63 \end{array}$ $\begin{array}{r} \boxed{7} \\ \times 9 \\ \hline 63 \end{array}$

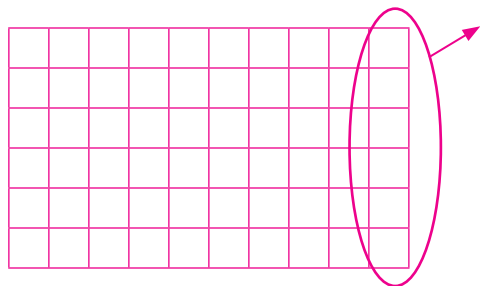
2. $\begin{array}{r} 2 \\ \times \boxed{9} \\ \hline 18 \end{array}$ $\begin{array}{r} 9 \\ \times 2 \\ \hline 18 \end{array}$

3. $\begin{array}{r} 9 \\ \times 5 \\ \hline 45 \end{array}$ $\begin{array}{r} \boxed{5} \\ \times 9 \\ \hline 45 \end{array}$

Draw an array for a known 10s fact. Then subtract 1 from each row to find the product.

4. $6 \times 9 = \underline{54}$

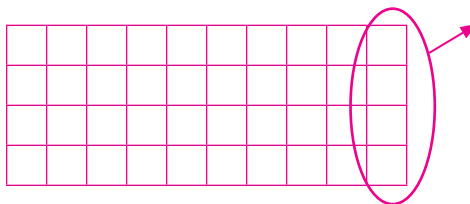
Known fact: $\underline{6} \times \underline{10} = \underline{60}$



$60 - \underline{6} = \underline{54}$

5. $4 \times 9 = \underline{36}$

Known fact: $\underline{4} \times \underline{10} = \underline{40}$



$\underline{40} - \underline{4} = \underline{36}$

Algebra Use the Commutative Property to find each unknown.

6. $9 \times \blacksquare = 36$

$\blacksquare \times 9 = 36$

The unknown is 4.

7. $\blacksquare \times 9 = 72$

$9 \times \blacksquare = 72$

The unknown is 8.



Problem Solving

8. **Mathematical PRACTICE** **Justify Conclusions** Ty works 9 hours a day and earns \$6 an hour. Cal works 6 hours a day and earns \$9 an hour. If they both work 5 days, who earns more money? Who works longer? Explain.

$9 \times \$6 = \$54; 6 \times \$9 = \$54; \text{They earn the same amount.}$

$9 \times 5 = 45 \text{ hours}; 6 \times 5 = 30 \text{ hours}; \text{Ty works longer than Cal.}$

Test Practice

9. Anna lives 9 blocks from school. How many blocks does she walk to school in 3 days?
- (A) 6 blocks (C) 12 blocks
 (B) 9 blocks (D) 27 blocks