

Calamitous Clod has stolen digits from the equations below!

EXAMPLE

Write the missing digits in the equation below to make a true statement.

Missing digits: 5, 7

$$\begin{array}{|c|} \hline 2 \\ \hline \end{array} \begin{array}{|c|} \hline \\ \hline \end{array} \times \begin{array}{|c|} \hline 3 \\ \hline \end{array} = \begin{array}{|c|} \hline \\ \hline \end{array} \begin{array}{|c|} \hline 5 \\ \hline \end{array}$$

Multiplying a number ending in 5 by 3 will give a product that ends in 5, so we guess that the first number is 25, which means the second number must be 7:

$$\begin{array}{|c|} \hline 2 \\ \hline \end{array} \begin{array}{|c|} \hline 5 \\ \hline \end{array} \times \begin{array}{|c|} \hline 3 \\ \hline \end{array} = \begin{array}{|c|} \hline 7 \\ \hline \end{array} \begin{array}{|c|} \hline 5 \\ \hline \end{array}$$

Since $25 \times 3 = 75$, our answer is correct.

PRACTICE

Write the missing digits in the equations below to make each a true statement.

94. Missing digits: 0, 5

$$\begin{array}{|c|} \hline 4 \\ \hline \end{array} \times \begin{array}{|c|} \hline 3 \\ \hline \end{array} \begin{array}{|c|} \hline \\ \hline \end{array} = \begin{array}{|c|} \hline 1 \\ \hline \end{array} \begin{array}{|c|} \hline 4 \\ \hline \end{array} \begin{array}{|c|} \hline \\ \hline \end{array}$$

95. Missing digits: 4, 7

$$\begin{array}{|c|} \hline \\ \hline \end{array} \begin{array}{|c|} \hline 2 \\ \hline \end{array} \times \begin{array}{|c|} \hline \\ \hline \end{array} = \begin{array}{|c|} \hline 2 \\ \hline \end{array} \begin{array}{|c|} \hline 8 \\ \hline \end{array} \begin{array}{|c|} \hline 8 \\ \hline \end{array}$$

96. Missing digits: 6, 6, 7

$$\begin{array}{|c|} \hline \\ \hline \end{array} \begin{array}{|c|} \hline 3 \\ \hline \end{array} \times \begin{array}{|c|} \hline 9 \\ \hline \end{array} = \begin{array}{|c|} \hline 5 \\ \hline \end{array} \begin{array}{|c|} \hline \\ \hline \end{array} \begin{array}{|c|} \hline \\ \hline \end{array}$$

97. Missing digits: 2, 3, 7

$$\begin{array}{|c|} \hline \\ \hline \end{array} \times \begin{array}{|c|} \hline 6 \\ \hline \end{array} \begin{array}{|c|} \hline \\ \hline \end{array} = \begin{array}{|c|} \hline \\ \hline \end{array} \begin{array}{|c|} \hline 0 \\ \hline \end{array} \begin{array}{|c|} \hline 1 \\ \hline \end{array}$$

98. Missing digits: 1, 2, 4

$$\begin{array}{|c|c|} \hline \square & \square \\ \hline \end{array} \times \begin{array}{|c|} \hline 7 \\ \hline \end{array} = \begin{array}{|c|c|c|} \hline 1 & \square & 7 \\ \hline \end{array}$$

99. Missing digits: 0, 1, 4

$$\begin{array}{|c|} \hline 3 \\ \hline \end{array} \times \begin{array}{|c|c|} \hline 3 & \square \\ \hline \end{array} = \begin{array}{|c|c|c|} \hline \square & \square & 2 \\ \hline \end{array}$$

100. Missing digits: 0, 9, 9, 1

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$$\begin{array}{|c|c|} \hline \square & 1 \\ \hline \end{array} \times \begin{array}{|c|c|c|} \hline 1 & \square & 1 \\ \hline \end{array} = \begin{array}{|c|c|c|c|} \hline 9 & 1 & \square & \square \\ \hline \end{array}$$

101. Missing digits: 4, 4, 6, 6, 1, 1

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$$\begin{array}{|c|c|c|} \hline \square & \square & \square \\ \hline \end{array} \times \begin{array}{|c|c|c|c|} \hline 1 & 0 & 0 & 1 \\ \hline \end{array} = \begin{array}{|c|c|c|c|c|c|} \hline \square & 6 & \square & 4 & \square & 1 \\ \hline \end{array}$$

PRACTICE

We don't know the missing digits in the problems below! Can you still fill in the blank spaces with digits to make a true statement?

102. $\begin{array}{|c|} \hline 7 \\ \hline \end{array} \times \begin{array}{|c|c|} \hline 4 & 9 \\ \hline \end{array} = \begin{array}{|c|c|c|} \hline \square & \square & \square \\ \hline \end{array}$

103. $\begin{array}{|c|c|} \hline 2 & \square \\ \hline \end{array} \times \begin{array}{|c|} \hline 3 \\ \hline \end{array} = \begin{array}{|c|c|} \hline 8 & 1 \\ \hline \end{array}$

104. $\begin{array}{|c|c|} \hline 8 & 2 \\ \hline \end{array} \times \begin{array}{|c|} \hline \square \\ \hline \end{array} = \begin{array}{|c|c|c|} \hline 4 & 9 & 2 \\ \hline \end{array}$

105. $\begin{array}{|c|} \hline 9 \\ \hline \end{array} \times \begin{array}{|c|c|} \hline \square & \square \\ \hline \end{array} = \begin{array}{|c|c|c|} \hline 2 & 7 & 9 \\ \hline \end{array}$

PRACTICE

Answer the word problems below.

106. A deck of cards has 52 cards. How many cards are in 9 decks of cards? **106.** _____

107. How many days are in 87 weeks? **107.** _____

108. Grogg completed 7 math problems. Alex completed 19 times as many math problems as Grogg. How many problems did Grogg and Alex complete all together? **108.** _____

The Beast Bakery bakers are making cakes. Use the information below to answer the questions that follow.

- It takes 4 cups of sugar to make a chocolate cake.
- It takes 3 cups of sugar to make a vanilla cake.
- It takes 3 cups of sugar to make a berry cake.

109. How many cups of sugar are needed to make 3 chocolate cakes, 12 berry cakes, and 24 vanilla cakes? **109.** _____

110. Which of these will require more sugar to make: 18 chocolate cakes **or** 23 vanilla cakes? **110.** _____

PRACTICE

Answer the word problems below.

- 111.** Each octapug has 8 legs. How many legs do 79 octapugs have all together? **111.** _____
- 112.** Each hexatoad has 6 legs. How many legs do 9 octapugs and 9 hexatoads have all together? **112.** _____
- 113.** How many legs do 6 octapugs and 42 hexatoads have all together? **113.** _____
- 114.** Lizzie reads three books that are each 176 pages long and three books that are each 124 pages long. How many pages does she read all together? **114.** _____
- 115.** Each elefinch has 312 feathers. How many total feathers do 3 elefinches have? **115.** _____

PRACTICE

Use your knowledge of the distributive property and the order of operations to evaluate each expression below.

116. $1,234 \times 5,432 - 5,431 \times 1,234$

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116. _____

117. $16 \times 3 + 4 \times 3 + 20 \times 6$

★

117. _____

118. $16 \times 3 + 17 \times 33 + 39 \times 3 + 17 \times 22$

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118. _____

119. 11×111

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119. _____

120. 15×222

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120. _____

121. $39 \times 17 + 40 \times 13$

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121. _____

On page 77, Grogg used the numbers 2, 3, 5, and 8 to create expressions equal to each number from 1 to 12.

We can also use the numbers 2, 5, 7, and 8 to create expressions equal to each number from 1 to 12.

$$(8-7) \times (5-2) = 3$$

First, we do what is in parentheses. Then, we multiply. $8-7=1$ and $5-2=3$, so $(8-7) \times (5-2) = 1 \times 3 = 3$.

EXAMPLES

$$7+5 \times 2-8 = 9$$

There are no parentheses, so we multiply first. Then, we add and subtract from left to right.

$$7+5 \times 2-8 = 7+10-8 = 17-8 = 9.$$

PRACTICE

- 122.** Create expressions equal to the numbers below using each of the numbers 2, 5, 7, and 8 once, along with +, ×, −, and (). Find as many as you can.
 ★ Try to find an expression equal to each number from 1 to 12.

1	2	3✓	4	5	6	7	8	9✓	10	11	12
_____ = 1						_____ = 7					
_____ = 2						_____ = 8					
$(8-7) \times (5-2)$ = 3						$7+5 \times 2-8$ = 9					
_____ = 4						_____ = 10					
_____ = 5						_____ = 11					
_____ = 6						_____ = 12					