

Missing Digits

You need a classmate

Activity

1. Marcus and Huia are trying to solve this missing digit problem. Both s are the same digit.

$$4 \square \times 3 = 13 \square$$

I'm going to try every number in the forties to see what works.



I don't think you need to. What digit multiplied by 3 gives itself in the ones place?



What digit is the in this problem?

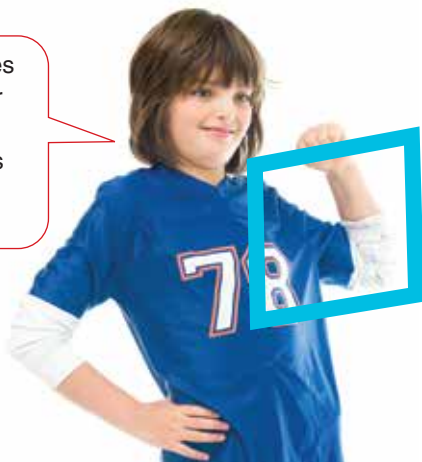
2. Here are some other missing digit problems. Within each problem, the is the same digit. Solve them using what you know about numbers rather than using trial and improvement. Write down the steps you used to solve each problem.

- a. $1\ 000 - \square 2 \square = 273$ b. $4 \square 6 + 123 = \square 79$
 c. $67 \square + 67 \square = 1\ 356$ d. $101 - 3 \triangle - \triangle 3 = 2$
 e. $\star 6 \times \star = 18 \star$ f. $\square 5 \square \times 11 = \square 88 \square$
 g. $684 \div \nabla = 34 \nabla$

3. Marcus and Huia are discussing the patterns they noticed when they were solving missing digit problems.

In multiplication problems (except for multiplying by 5), I know that if 1 factor is odd, there will only be 1 digit that will work in the ones place. For example, with $3 \square \times 7 = \square \square 4$, the must be 2 because only 2×7 gives a 4 in the ones place.

In subtraction problems, to find a ones digit, I look at the place in the answer where the missing digit belongs. For example, if the ones place shows $5 - \square = 3$, I know that the has to be 2.



What patterns did you notice when you were solving your missing digit problems?

4. Make up some missing digit problems for a classmate to solve. Make sure you check them carefully before you give them to your classmate.