

G3-M2-Lesson 19

1. Solve the subtraction problems below.

a. $370 \text{ cm} - 90 \text{ cm} = 280 \text{ cm}$

I can use mental math to solve this subtraction problem. I do not have to write it out vertically. Using the compensation strategy, I can add 10 to both numbers and think of the problem as $380 - 100$, which is an easy calculation. The answer is 280 cm.

b. $800 \text{ mL} - 126 \text{ mL}$

$$\begin{array}{r} 7 \text{ } 10 \\ \cancel{8}00 \text{ mL} \\ - 126 \text{ mL} \\ \hline \end{array}$$

Before I subtract, I need to see if any tens or hundreds need to be unbundled. There are not enough ones to subtract, so I can unbundle 1 ten to make 10 ones. But there are 0 tens, so I can unbundle 1 hundred to make 10 tens. Then there are 7 hundreds and 10 tens.

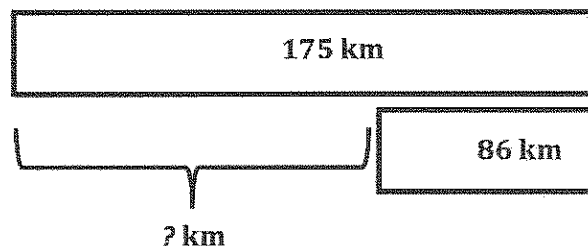
$$\begin{array}{r} 9 \\ 7 \text{ } 10 \\ \cancel{8}00 \text{ mL} \\ - 126 \text{ mL} \\ \hline \end{array}$$

I still am not ready to subtract because I have to unbundle 1 ten to make 10 ones. Then there are 9 tens and 10 ones.

$$\begin{array}{r} 9 \\ 7 \text{ } 9 \text{ } 10 \\ \cancel{8}00 \text{ mL} \\ - 126 \text{ mL} \\ \hline 674 \text{ mL} \end{array}$$

After unbundling, I see that I have 7 hundreds, 9 tens, and 10 ones. Now I am ready to subtract. Since I've prepared my numbers all at once, I can choose to subtract left to right, or right to left. The answer is 674 mL.

2. Kenny is driving from Los Angeles to San Diego. The total distance is about 175 kilometers. He has 86 kilometers left to drive. How many kilometers has he driven so far?



I can model this problem with a tape diagram to figure out what I need to do to solve. I can see that I am looking for a missing part.

Since I can't easily solve this problem using mental math, I can use the standard algorithm for subtraction. I can re-write the problem vertically.

$$\begin{array}{r} 175 \text{ km} \\ - 86 \text{ km} \\ \hline \end{array}$$

$$\begin{array}{r} 0 \ 17 \\ \cancel{1}75 \text{ km} \\ - 86 \text{ km} \\ \hline \end{array}$$

Before I subtract, I need to see if any unbundling needs to be done. I can see there are not enough tens or ones, so I can unbundle 1 hundred to make 10 tens. After unbundling, there are 0 hundreds and 17 tens.

$$\begin{array}{r} 16 \\ 0 \ 17 \ 15 \\ \cancel{1}75 \text{ km} \\ - 86 \text{ km} \\ \hline 89 \text{ km} \end{array}$$

I can unbundle 1 ten to make 10 ones. After unbundling, there are 0 hundreds, 16 tens, and 15 ones. I am ready to subtract. The answer is 89 kilometers.

Kenny has driven 89 km so far.