1. Circle each expression that is not equivalent to the expression in bold.
   a. $37 \times 19$
      - 37 nineteens $\checkmark$
      - $(30 \times 19)-(7 \times 29)$
      - $37 \times (20-1) \checkmark$
      - $(40-2) \times 19$
   b. $26 \times 35$
      - 35 twenty-sixes
      - $(26+30) \times (26+5)$
      - $(26 \times 30)+(26 \times 5)$
      - $35 \times (20+60)$
   c. $34 \times 89$
      - $34 \times (80+9)$
      - $(34 \times 8)+(34 \times 9)$
      - $34 \times (90-1)$
      - 89 thirty-fours

2. Solve using mental math. Draw a tape diagram and fill in the blanks to show your thinking. The first one is partially done for you.

   a. $19 \times 50 = \underline{950}$ fifties
      
      Think: 20 fifties - 1 fifty
      
      $= (\underline{20} \times 50) - (\underline{1} \times 50)$
      
      $= 1000 - 50$
      
      $= 950$

   b. $11 \times 26 = \underline{286}$ twenty-sixes
      
      Think: 10 twenty-sixes + __ twenty-sixes
      
      $= (\underline{10} \times 26)+(\underline{1} \times 26)$
      
      $= 260 + 26$
      
      $= 286$
c. $49 \times 12 = \underline{\hspace{1cm}}$ twelves

Think: $\underline{\hspace{1cm}}$ twelves $- 1$ twelve

$= (\underline{\hspace{1cm}} \times 12) - (\underline{\hspace{1cm}} \times 12)$

$= \underline{\hspace{1cm}} - \underline{\hspace{1cm}}$

$= \underline{\hspace{1cm}}$

d. $12 \times 25 = \underline{\hspace{1cm}}$ twenty-fives

Think: $\underline{\hspace{1cm}}$ twenty-fives $+ \underline{\hspace{1cm}}$ twenty-fives

$= (\underline{\hspace{1cm}} \times 25) + (\underline{\hspace{1cm}} \times 25)$

$= \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$

$= \underline{\hspace{1cm}}$

3. Define the unit in word form and complete the sequence of problems as was done in the lesson.

a. $29 \times 12 = 29 \text{ _______}

\text{Twelves}

12 12 12 \ldots \ 12 12 \times 12

1 2 3

28 29 30

Think: $30 \text{ _______} - 1 \text{ _______}$

$= (30 \times \underline{\hspace{1cm}}) - (1 \times \underline{\hspace{1cm}})$

$= \underline{\hspace{1cm}} - \underline{\hspace{1cm}}$

$= \underline{\hspace{1cm}}$

b. $11 \times 31 = 31 \underline{\hspace{1cm}}$

Think: $30 \underline{\hspace{1cm}} + 1 \underline{\hspace{1cm}}$

$= (30 \times \underline{\hspace{1cm}}) + (1 \times \underline{\hspace{1cm}})$

$= \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$

$= \underline{\hspace{1cm}}$

Lesson 4: Convert numerical expressions into unit form as a mental strategy for multi-digit multiplication.
4. How can $12 \times 50$ help you find $12 \times 49$? 

$$12 \times 49 = 49 \text{ twelves}$$

Think: $50 \text{ twelves} - 1 \text{ twelve}$

$$(12 \times 50) - (12 \times 1) = 500 - 12 = 488$$

5. Solve mentally.
   a. $16 \times 99 =$
   b. $20 \times 101 =$

6. Joy is helping her father to build a rectangular deck that measures $14 \text{ ft}$ by $19 \text{ ft}$. Find the area of the deck using a mental strategy. Explain your thinking.

$$14 \times 19 = 14 \times 19 \text{ by mental strategy}$$

Think: $(14 \times 20) - (14 \times 1)$

$$280 - 14 = 266$$

7. The Lason School turns 101 years old in June. In order to celebrate, they ask each of the 23 classes to collect 101 items and make a collage. How many total items will be in the collage? Use mental math to solve. Explain your thinking.