Name _____ Date _____

1. Circle each expression that is not equivalent to the expression in **bold**.

   a. **37 × 19**

   37 nineteens | (30 × 19) – (7 × 29) | 37 × (20 – 1) | (40 – 2) × 19

   b. **26 × 35**

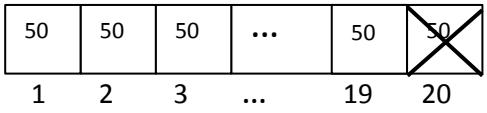
   35 twenty-sixes | (26 + 30) × (26 + 5) | (26 × 30) + (26 × 5) | 35 × (20 + 60)

   c. **34 × 89**

   34 × (80 + 9) | (34 × 8) + (34 × 9) | 34 × (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 was done for you.

a. 19 × 50 = 19 fifties

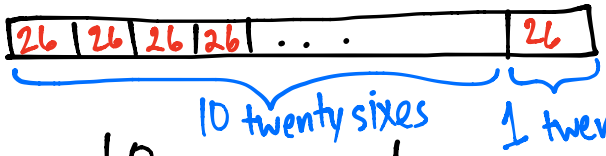


Think: 20 fifties – 1 fifties

= (20 × 50) – (1 × 50)

= 1000 – 50 = 950

b. 11 × 26 = 11 twenty-sixes

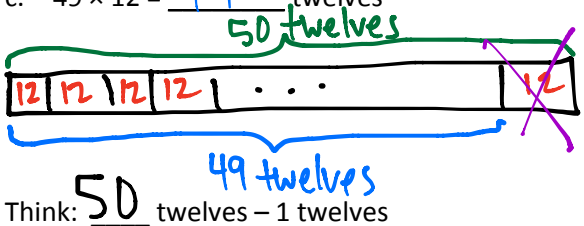


Think: 10 twenty-sixes + 1 twenty-sixes

= (10 × 26) + (1 × 26)

= 260 + 26 = 286

c. 49 × 12 = 49 twelves



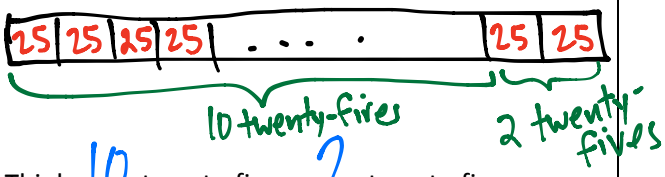
Think: 50 twelves – 1 twelves

= (50 × 12) – (1 × 12)

= 600 – 12 = 588

d. 12 × 25 = 12 ~~seventy~~ fives

twenty-fives



Think: 10 twenty-fives + 2 twenty-fives

= (10 × 25) + (2 × 25)

= 250 + 50 = 300

3. Define the unit in word form and complete the sequence of problems as was done in Problems 3–4 in the lesson.

a. 29 × 12 = 29 twelves

Think: 30 twelves – 1 twelve

= 30 × 12) – (1 × 12)

= 360 – 12 = 348

b. 11 × 31 = 31 elevens

Think: 30 elevens + 1 eleven

= (30 × 11) + (1 × 11)

= 330 + 11 = 341

c. 19 × 11 = 19 elevens

Think: 20 elevens – 1 eleven

= (20 × 11) – (1 × 11)

= 220 – 11 = 209

d. 50 × 13 = 13 fifty

Think: 10 fifty + 3 fifty

= (10 × 50) + (3 × 50)

= 500 + 150 = 650

4. How can 12 × 50 help you find 12 × 49?

12 x 50 would be too big by 12. Now subtract 12 to get 12 x 49.

5. Solve mentally.

a. 16 × 99 = $(16 \times 100) - (16 \times 1) = 1600 - 16 = 1584$

b. 20 × 101 = $(20 \times 100) \times (20 \times 1) = 2000 + 20 = 2020$

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

$14 \times 19 = (14 \times 20) - (14 \times 1)$

$= 280 - 14$

$= 266$

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.

$23 \times 101 = (23 \times 100) + (23 \times 1)$

$= 2300 + 23$

$= 2323$