

Name _____

1. Mr. Luca bought 28 notebooks. Each notebook has 54 pages. What is a good way to estimate the total number of pages Mr. Luca bought? **1 point**

(A) 20×50 (C) 30×50
(B) 20×60 (D) 28×60

2. Find the product 23×30 . Show your work. **1 point**

Sample answer:
 $23 \times 30 = 20 \times 30 + 3$
 $\times 30 = 600 + 90 = 690$

3. The product of two factors is 1,200. One of the factors is 20. What is the other factor? **1 point**

(A) 40 (C) 60
(B) 120 (D) 600

4. Which two expressions are equal to 420? **1 point**

42×10
 $40 \times 10 + 2$
 $40 \times 10 + 20 \times 10$
 $40 \times 10 + 2 \times 10$
 $20 \times 10 + 4 \times 10$

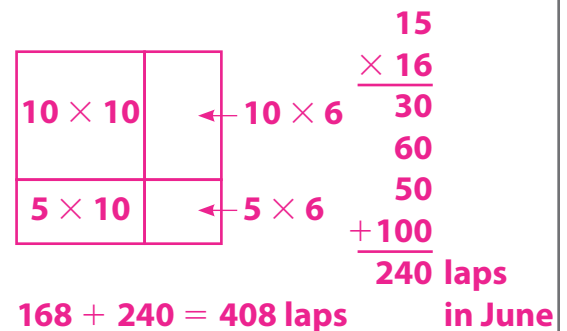
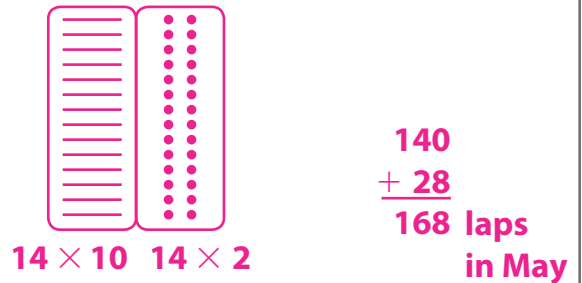
5. Nika has a contract and needs to make 37 beaded necklaces. She puts 42 beads in each necklace. Which is the best way to use rounding to estimate the number of beads Nika needs? What is the exact number of beads? **1 point**

(A) 37×40 ; 1,480 (C) 40×40 ; 1,554
(B) 40×42 ; 1,680 (D) 45×45 ; 2,025

6. Graham swam 14 laps 12 times in May. He swam 15 laps 16 times in June.

- A. Draw arrays or area models to find the number of laps Graham swam during the two months. **2 points**

Sample answer:



- B. Write and solve equations to represent your arrays or area models. **2 points**

Sample answer:

$14 \times 12 = m;$
 $m = 168$ laps
 $15 \times 16 = j;$
 $j = 240$ laps
 $168 + 240 = \ell;$
 $\ell = 408$ laps

7. Each box has 16 books packed. Use the numbers in the box to complete the table. **1 point**

40	Number of Boxes	Number of Books
60	10	160
160	30	480
480	40	640
960	60	960

8. A bakery has 12 bins of bagels. Each bin is filled with 37 bagels. Use properties of operations to find the total number of bagels. Use rounding to check if your answer is reasonable. **2 points**

Sample answer:

$$\begin{aligned}
 &12 \times 37 \\
 &= 12 \times (30 + 7) \\
 &= (12 \times 30) + (12 \times 7) \\
 &= 360 + 84 = 444;
 \end{aligned}$$

Round 37 to 40.

$12 \times 40 = 480$. 480 is close to 444, so the answer is reasonable.

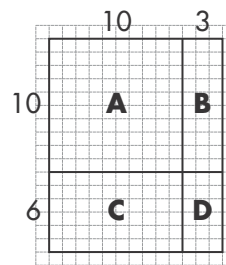
9. The lawn service charges \$85 to mow, weed, and fertilize a lawn. How much did the lawn service earn if 15 lawns were tended in June and 23 lawns were tended in July? Write and solve equations. **2 points**

$$\begin{aligned}
 &15 + 23 = l; l = 38 \\
 &\text{lawns}; 38 \times \$85 = e; \\
 &e = \$3,230
 \end{aligned}$$

10. Which of the following uses properties of operations to help find 49×21 ? **1 point**

- (A) $4 \times 9 \times 2 \times 1$
 (B) $(40 + 9) \times (20 + 1)$
 (C) $49 + 21$
 (D) $40 \times 9 \times 20 \times 1$

11. Spencer drew an area model to find 16×13 . Write the partial product for each rectangle in the area model. **1 point**



A **$10 \times 10 = 100$**

B **$10 \times 3 = 30$**

C **$6 \times 10 = 60$**

D **$6 \times 3 = 18$**

12. One mural is 27 feet long and 12 feet wide. Another mural is 18 feet long and 10 feet wide. What is the difference between the areas of the two murals? Use equations to show your work. **2 points**

Sample answer:

$$\begin{aligned}
 &a = 27 \times 12; \\
 &a = 324 \text{ square feet} \\
 &b = 18 \times 10; \\
 &b = 180 \text{ square feet} \\
 &d = 324 - 180; \\
 &d = 144 \text{ square feet}
 \end{aligned}$$

144 square feet