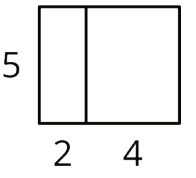
Lesson 9 Practice Problems

1. Select **all** the expressions that represent the area of the large, outer rectangle.



A. $5(2 + 4)$

B. $5 \cdot 2 + 4$

C. $5 \cdot 2 + 5 \cdot 4$

D. $5 \cdot 2 \cdot 4$

E. $5 + 2 + 4$

F. $5 \cdot 6$

2. Draw and label diagrams that show these two methods for calculating $19 \cdot 50$.

   - First find $10 \cdot 50$ and then add $9 \cdot 50$.
   - First find $20 \cdot 50$ and then take away 50.

3. Complete each calculation using the distributive property.

$98 \cdot 24$	$21 \cdot 15$	$0.51 \cdot 40$
$(100 - 2) \cdot 24$	$(20 + 1) \cdot 15$	$(0.5 + 0.01) \cdot 40$
…	…	…

4. A group of 8 friends go to the movies. A bag of popcorn costs $2.99. How much will it cost to get one bag of popcorn for each friend? Explain how you can calculate this amount mentally.

5. a. On graph paper, draw diagrams of $a + a + a + a$ and $4a$ when a is 1, 2, and 3. What do you notice?

   b. Do $a + a + a + a$ and $4a$ have the same value for any value of a? Explain how you know.

(From Unit 6, Lesson 8.)

6. 120% of x is equal to 78.

   a. Write an equation that shows the relationship of 120%, x, and 78.

   b. Use your equation to find x. Show your reasoning.

(From Unit 6, Lesson 7.)

7. Kiran's aunt is 17 years older than Kiran.

   a. How old will Kiran's aunt be when Kiran is:

   15 years old? 30 years old? x years old?

   b. How old will Kiran be when his aunt is 60 years old?

(From Unit 6, Lesson 6.)