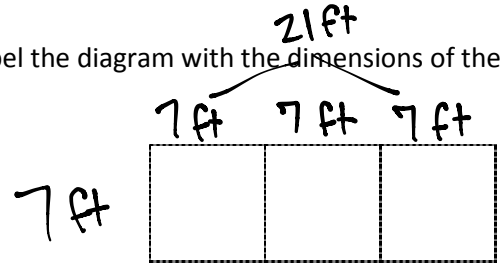
Name _____ Date _____

1. A rectangular pool is 7 feet wide. It is 3 times as long as it is wide.

   a. Label the diagram with the dimensions of the pool.



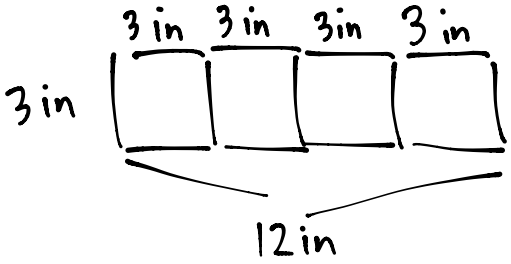
   b. Find the perimeter of the pool.

$P = 2 \times (l + w)$
$= 2 \times (7 + 21)$
$= 2 \times (28)$
$= 56$

$P = 56$ feet

2. A rectangular bumper sticker is 3 inches long. It is 4 times as wide as it is long.

   a. Draw a diagram of the bumper sticker and label its dimensions.



   b. Find the perimeter and area of the bumper sticker.

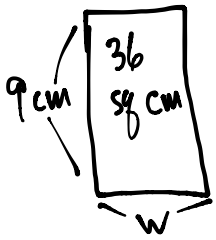
$P = 2 \times (l + w)$
$= 2 \times (3 + 12)$
$= 2 \times (15)$
$= 30$

$A = l \times w$
$= 3 \times 12$
$= 36$

$P = 30$ in
$A = 36$ sq. in

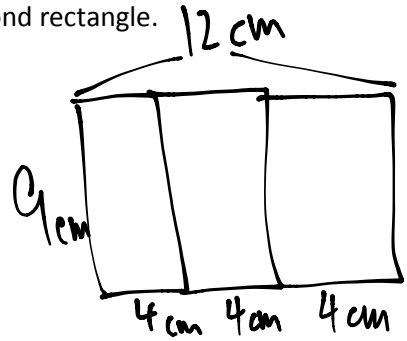
3. The area of a rectangle is 36 square centimeters and its length is 9 centimeters.

   a. What is the width of the rectangle?



$A = l \times w$
$36 = 9 \times w$
$w = 4$ cm

   b. Elsa wants to draw a second rectangle that is the same length but is 3 times as wide. Draw and label Elsa's second rectangle.



   c. What is the perimeter of Elsa's second rectangle?

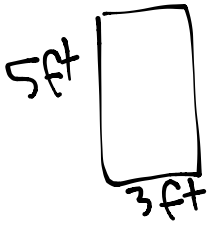
$P = 42$ cm

$P = 2 \times (l + w)$
$= 2 \times (9 + 12)$
$= 2 \times (21)$
$= 42$

4. The area of Nathan's bedroom rug is 15 square feet. The longer side measures 5 feet. His living room rug is twice as long and twice as wide as the bedroom rug.

   a. Draw and label a diagram of Nathan's bedroom rug. What is its perimeter?

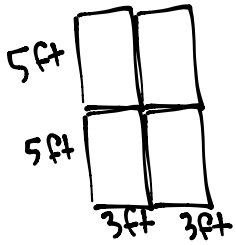
$A = l \times w$
$15 = 5 \times w$
$w = 3$ ft



$P = 16$ ft

$P = 2 \times (l + w)$
$= 2 \times (5 + 3)$
$= 2 \times 8$
$= 16$

   b. Draw and label a diagram of Nathan's living room rug. What is its perimeter?



$P = 2 \times (l + w)$
$= 2 \times (10 + 6)$
$= 2 \times (16)$
$= 32$

$P = 32$ ft

c. What is the relationship between the two perimeters?

Bedroom = 16 ft
Living room = 32 ft

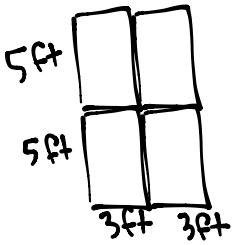
The perimeter of the living room is double the bedroom's perimeter.

d. Find the area of the living room rug using the formula $A = l \times w$.

$A = l \times w$
$= 10 \times 6$
$= 60$

$A = 60$ sq. ft.

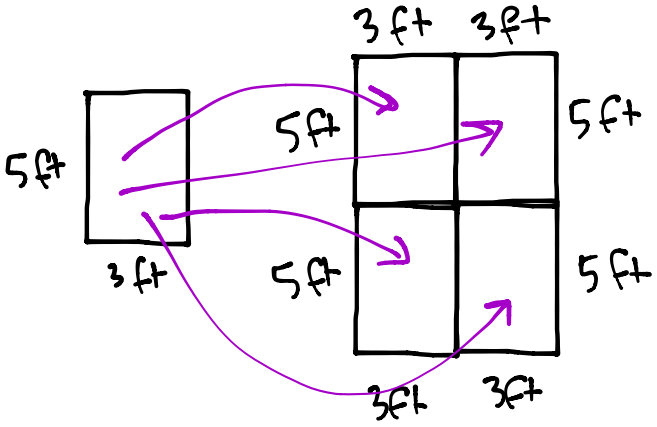
e. The living room rug has an area that is how many times that of the bedroom rug?



Bedroom Area = 15 sq. ft
Living room Area = 60 sq. ft.

The living room has an area 4 times bigger than the bedroom.

f. Compare the way the perimeter changed with the way the area changed between the two rugs. Explain what you notice using words, pictures, or numbers.



The perimeter of the living room is 2 times as big as the bedroom. The area is 4 times as big as the bedroom. When the length and width are doubled, the perimeter doubles, but the area gets 4 times bigger.