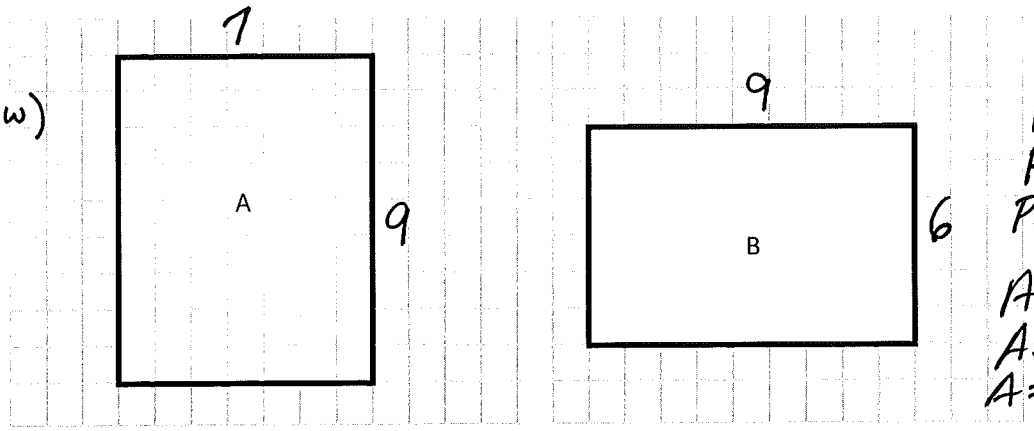
Name _____ Date _____

1. Determine the perimeter and area of rectangles A and B.



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

$A = l \times w$
$A = 7 \times 9$
$A = 63$

A = 63 square units = 63 unit^2 63 sq units
P = 32 units

not expected for 4th grade

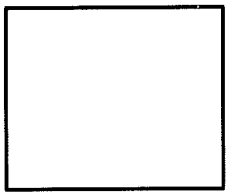
$P = 2 \times (l + w)$
$P = 2 \times 15$
$P = 30$

$A = l \times w$
$A = 9 \times 6$
$A = 54$

A = 54 square units
P = 30 units

2. Determine the perimeter and area of each rectangle.

a.

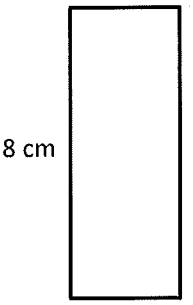


$P = 2 \times (5 + 6)$
$P = 2 \times 11$
$P = 22$

$A = l \times w$
$A = 6 \times 5$
$A = 30$

P = 22 cm
A = 30 sq. cm
30 cm^2

b.



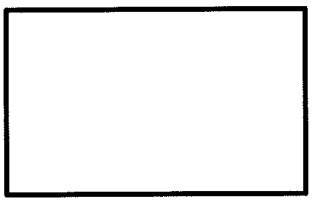
$P = 2 \times (8 + 3)$
$P = 2 \times (11)$
$P = 22$

P = 22 cm
A = 24 sq. cm

$A = l \times w$
$A = 8 \times 3$
$A = 24$

3. Determine the perimeter of each rectangle. (Note - the x is done with repeated addition)

a.



$P = 2 \times (l + w)$
$P = 2 \times 265$
$P = 530$

$166 + 99 = 265$
$265 + 265 = 530$

P = 530m

b.

$150 \text{ cm} + 75 \text{ cm} = 225$

$P = 2 \times (l + w)$
$P = 2 \times 225$
$P = 450$

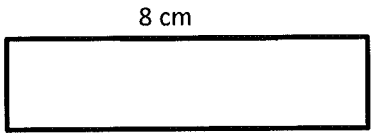
450cm or
P = 4m 50cm

$225 + 225 = 450$

Name _____ Date _____

1. Determine the area and perimeter of the rectangle.

W	L
20	0



$A = L \times W$

8×2

$A = 16 \text{ cm}^2$

$P = 2(L + W)$

$P = 2(8 + 2)$

$P = 2(10)$

$P = 20 \text{ cm}$

8 + 8 + 2 + 2

16 + 4

P = 20

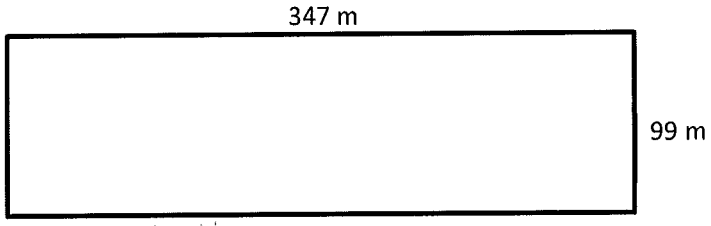
2. Determine the perimeter of the rectangle.

$P = 2(L + W)$

$P = 2(347\text{m} + 99\text{m})$

$2(446 \text{ m})$

$P = 892\text{m}$



446
+ 446
892 m

3. A rectangle with whole number side lengths has an area of 24 square centimeters and a perimeter of 22 centimeters. Find the length and width of the rectangle.

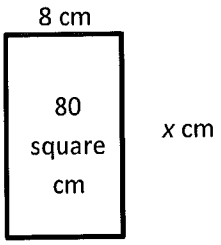
24 sq cm

P

division not exposed to yet

4. Given the rectangle's area, find the unknown side length.

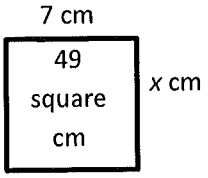
a.



$A = l \times w$
$80 = 8 \times x$
$x = 10$

$x =$ 10 cm

b.

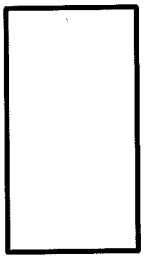


$A = l \times w$
$49 = 7 \times x$
$x = 7$

$x =$ 7 cm

5. Given the rectangle's perimeter, find the unknown side length. * Note the division involved in this problem.

a. P = 120 cm

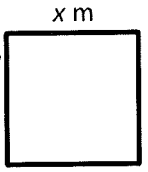


$P = 2L + 2w$
$2L = 20 + 20 = 40$
$120 = 40 + 2w$
$80 = 2w$

$120 - 40 = 80$

$x =$ 40 cm
$80 \div 2 = 40$

b. P = 1,000 m



$P = 2L + 2w$
$2w = 250 + 250 = 500$
$1000 = 2L + 500$
$500 = 2L$

$1{,}000 - 500 = 500$

$x =$ 250 m
$500 \div 2 = 250$

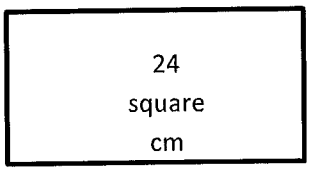
6. Each of the following rectangles has whole number side lengths. Given the area and perimeter, find the length and width.

$20 \div 2 = 10$ (another solution in the module)

a. P = 20 cm

$P = 2(l + w)$
$10 = l + w$
$10 = 6 + 4$

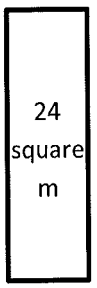
$l =$ 6 cm



$w =$ 4 cm

$28 \div 2 = 14$

b. P = 28 m



$w =$ 12 m

$P = 2(l + w)$
$14 = l + w$
$14 = 2 + 12$

$l =$ 2 m

Area = 24
$A = l \times w$

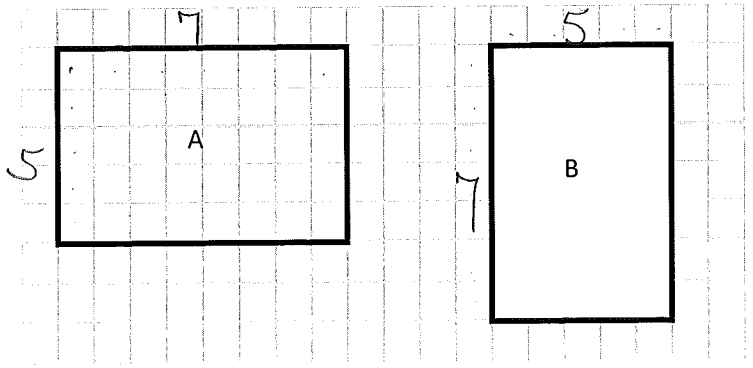
w	l
1	24
2	12
3	8
4	6

w	l
10	1
9	1
8	2
7	3
6	4
5	5

$6 \times 4 = 24$
$5 \times 5 = 25$

Name _____ Date _____

1. Determine the perimeter and area of rectangles A and B.



A = 7 X 5 = 35 sq units
P = 2(7+5) = 24 units

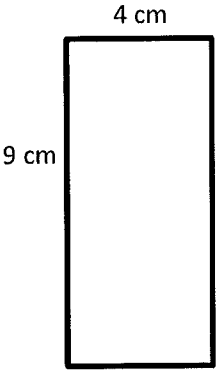
A = 5 X 7 = 35 sq units
P = 2(5+7) = 24 units

2. Determine the perimeter and area of each rectangle.

a.

P = 2(7+3) = 20 cm
A = 7 X 3 = 21 sq cm

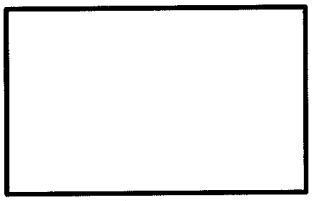
b.



P = 2(4+9) = 26 cm
A = 4 X 9 = 36 sq cm

3. Determine the perimeter of each rectangle.

a.



149 + 76 = 225
225 + 225 = 450

P = 2(149+76m) = 450 m

b.

(210 cm)
2 m 10 cm

2m = 200 cm
+ 10 cm
210 cm

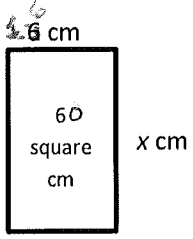
210 + 45 = 255 cm = 2m 55 cm

P = 255 cm or 2m 55 cm

4. Given the rectangle's area, find the unknown side length.

* Note error on 4a. should be 60 square cm

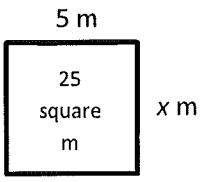
a.



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

$x =$ 10 cm

b.

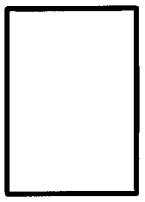


$A = l \times w$
$25 = 5 \times x$
$x = 5$

$x =$ 5 m

5. Given the rectangle's perimeter, find the unknown side length. * Note 5 and 6 involve divison so we use later in module after divison is introduced.

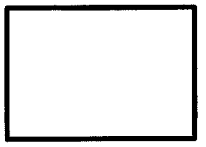
a. P = 180 cm



$P = 2L + 2W$
$180 = 80 + 2W$
$100 = 2W$
$100 \div 2 = 50$
$180 - 80 = 100$
$2L = 40 + 40 = 80$

$x =$ 50 cm

b. P = 1,000 m



$P = 2L + 2W$
$1{,}000 = 2L + 300$
$1{,}000 - 300 = 700$
$700 = 2L$
$2W = 150 + 150 = 300$
$700 \div 2 = 350$

$x =$ 350 m

6. Each of the following rectangles has whole number side lengths. Given the area and perimeter, find the length and width.

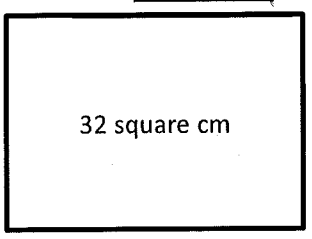
a. A = 32 square cm
P = 24 cm

$24 \div 2 = 12$
$P = 2(l + w)$
$P = 24 \div 2$
$12 = l + w$
$12 = 8 + 4$

W	L
12	0
11	1
10	2
9	3
8	4

$A = 32$
$A = l \times w$
$A = 8 \times 4$

$l =$ 8 cm



$w =$ 4 cm

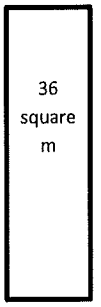
b. A = 36 square m
P = 30 m

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

$w =$ 3

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

W	L
1	36
2	18
3	12

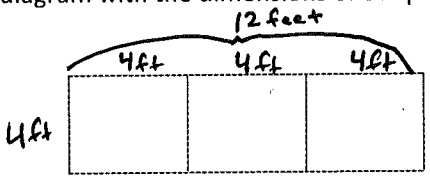


$l =$ 12

Name _____ Date _____

1. A rectangular porch is 4 feet wide. It is 3 times as long as it is wide.

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



   b. Find the perimeter of the porch.

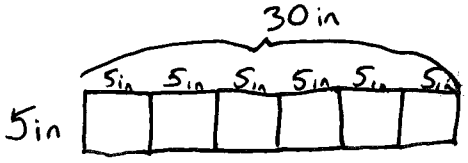
$P = 2 \times (l + w)$
$P = 2 \times (4 + 12)$
$= 2 \times 16$
$= 32$

$16 + 16 = 32$

$P = 32$ feet

2. A narrow rectangular banner is 5 inches wide. It is 6 times as long as it is wide.

   a. Draw a diagram of the banner and label its dimensions.



   b. Find the perimeter and area of the banner.

$P = 2(l + w)$
$= 2(30 + 5)$
$= 2(35)$
$= 70$

$35 + 35 = 70$

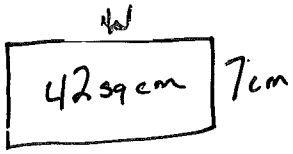
$P = 70$ in

$A = l \times w$
$= 30 \times 5$
$= 3 \text{ tens} \times 5$
$= 15 \text{ tens} = 150$

(Note the multiplication)

3. The area of a rectangle is 42 square centimeters. Its length is 7 centimeters.

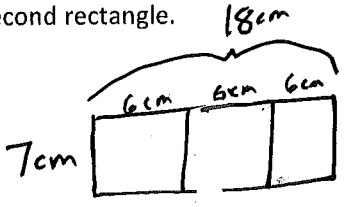
   a. What is the width of the rectangle?



$A = l \times w$
$42 = 7 \times w$
$42 = 7 \times 6$

width = 6 cm

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



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

$P = 2(l+w)$
$P = 2(7+18)$
$= 2(25)$
$= 50$

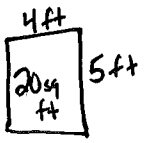
$18 + 7 = 25$
$25 + 25 = 50$

P = 50 cm

4. The area of Betsy's rectangular sandbox is 20 square feet. The longer side measures 5 feet. The sandbox at the park is twice as long and twice as wide as Betsy's.

   a. Draw and label a diagram of Betsy's sandbox. What is its perimeter?

A = 20 sq ft P = 18 feet.

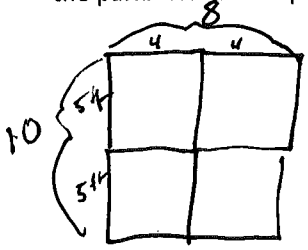


$P = 2 \times (l+w)$
$= 2 \times (9)$
$= 18$

$A = l \times w$
$20 \div 5 = w$
$w = 4$ ft

* Relationship between × and ÷

   b. Draw and label a diagram of the sandbox at the park. What is its perimeter?



$P = 2 \times (l+w)$
$= 2 \times (10+8)$
$= 2 \times 18$
$= 36$

$18 + 18 = 36$

P = 36 ft

c. What is the relationship between the two perimeters?

The park's sandbox has a perimeter that is 2 times as large as Betsy's sandbox.

d. Find the area of the park's sandbox using the formula $A = l \times w$.

$A = l \times w$
$A = 8 \times 10$
$= 80$ sq ft

e. The sandbox at the park has an area that is how many times that of Betsy's sandbox?

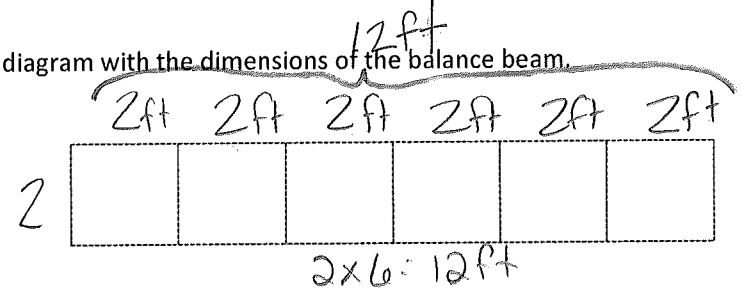
It has 4 times the area of Betsy's sandbox.
$20 \times 4 = 80$

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

Name _____ Date _____

1. A balance beam at a playground is 2 feet wide. It is 6 times as long as it is wide.

   a. Label the diagram with the dimensions of the balance beam.



   b. Find the perimeter of the balance beam.

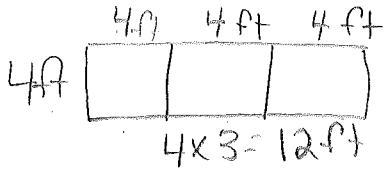
$P = 2x(l+w)$
$P = 2x(2+12)$
$= 2x14$
$= 28$

$P = 28$ feet

$14 + 14 = 28$

2. A blanket is 4 feet wide. It is 3 times as long as it is wide.

   a. Draw a diagram of the blanket and label its dimensions.



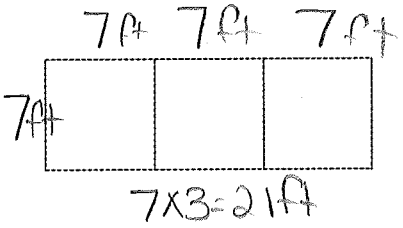
   b. Find the perimeter and area of the blanket.

$P = 2x(l+w)$
$P = 2x(12+4)$
$P = 2x16$
$P = 32ft$

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.



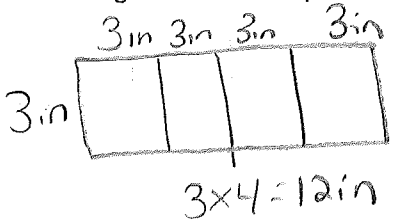
   b. Find the perimeter of the pool.

p= 2x(l+w)
p= 2x(21+7)
p= 2x28
p= 56ft

  1
 28
+28
 56

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= 2x(l+w)
p= 2x(12+3)
p= 2x15
p= 30ft

 15
+15
 30

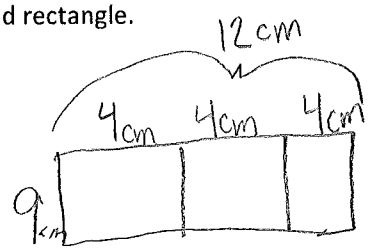
3. The area of a rectangle is 36 square centimeters and its length is 9 centimeters.

   a. What is the width of the rectangle?

   36 sq cm | 9 cm

   $A = l \times w$
   $36 = 9 \times w$
   $36 = 9 \times 4$
   width = 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.

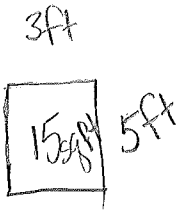


   c. What is the perimeter of Elsa's second rectangle?

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

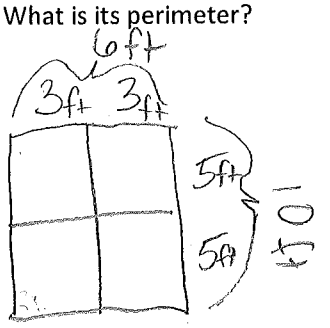
4. The area of Nathan's bedroom rug is 15 square feet. The longer side measures 5 feet. His living room rug is twice as long and twice as wide as the bedroom rug.

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



   $A = l \times w$
   $15 = 5 \times w$
   $15 = 5 \times 3$ or $15 \div 5 = 3$
   width = 3 ft

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



   $P = 2 \times (l + w)$
   $= 2 \times (10 + 3)$
   $= 2 \times (13)$
   $P = 26$ ft
   $13 + 13 = 26$

c. What is the relationship between the two perimeters?

The rug in Nathan's livingroom has a perimeter of 26ft, which is 2 times as large as Nathan's bedroom.

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

A = l x w
A = 10ft x 6ft
A = 60 sq ft

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

60 sqft is 4 times greater than 15sqft
(livingroom) (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 rug is double the size the perimeter of the bedroom. The area of the living room is four times the area of the bedroom. When the lengths and widths are doubled, the perimeter doubles, but the area quadruples.