# Perimeter Word Problems

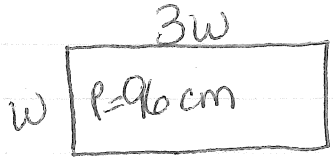
## Notes

1) Draw and label the figure
2) Identify the variable
3) Write the Equation
4) Solve
5) Label the units on the solution

Example Problems. Problems are from the booklet.

## Part 1

1)




$\boxed{w = \text{the width}}$

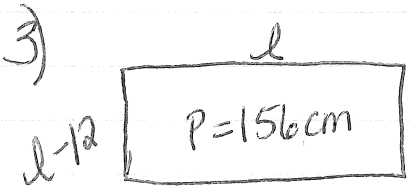
$\boxed{w + 3w + w + 3w = 96}$

$$\frac{8w}{8} = \frac{96}{8}$$

$$w = 12$$

(3w) $\boxed{\begin{array}{l}\text{the width} = 12\text{ cm} \\ \text{the length} = 36\text{ cm}\end{array}}$

3)




$l$ = the length

$$2l + 2(l-12) = 156$$

$$2l + 2l - 24 = 156$$

$$4l - 24 = 156$$

$$+24 \quad +24$$

$$\frac{4l}{4} = \frac{180}{4}$$

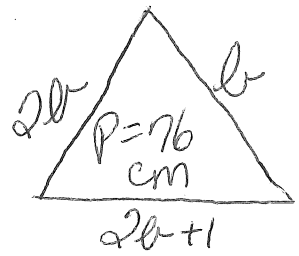
$l = 45$

$$\begin{array}{r} 45 \\ -12 \\ \hline 33 \end{array}$$

$\boxed{\begin{array}{l}\text{the length} = 45\text{ cm} \\ \text{the width} = 33\text{ cm}\end{array}}$

## Part 1

5)

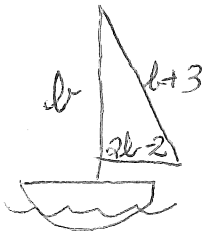



side a $2b$
side b $= b$
side c $2b+1$

$$2b + b + 2b + 1 = 76$$
$$5b + 1 = 76$$
$$-1 \quad -1$$
$$\frac{5b}{5} = \frac{75}{5}$$
$$b = 15$$

| | |
|---|---|
| $2b$ | side a = 30 cm |
| $b$ | side b = 15 cm |
| $2b+1$ | side c = 31 cm |

7.)




P = 25 m

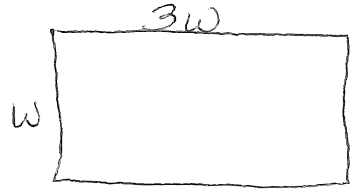
side a = $2b-2$
side b = $b$
side c = $b+3$

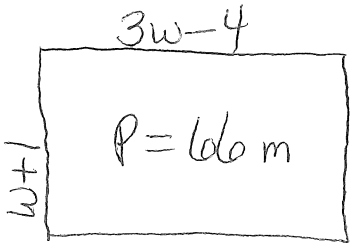
$$2b - 2 + b + b + 3 = 25$$
$$4b + 1 = 25$$
$$-1 \quad -1$$
$$\frac{4b}{4} = \frac{24}{4}$$
$$b = 6$$

| | |
|---|---|
| 12-2<br>$2b-2$ | side a = 10 m |
| | side b = 6 m |
| $b+3$ | side c = 9 m |

# Part 2

1)



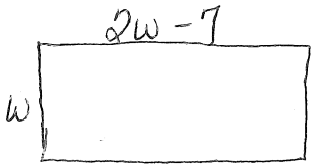



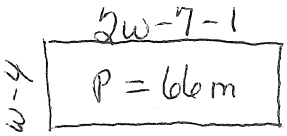

w = the width of the <u>original</u> rectangle

$$2(3w-4)+2(w+1)=66$$
$$6w-8+2w+2=66$$
$$8w-6=66$$
$$+6 \quad +6$$
$$\frac{8w}{8}=\frac{72}{8}$$
$$w=9$$

w — the original width = 9 m
3w — the original length = 27 m

3)




w = the width of the <u>original</u> rectangle

$$2(2w-8)+2(w-4)=66$$
$$4w-16+2w-8=66$$
$$6w-24=66$$
$$+24 \quad +24$$
$$\frac{6w}{6}=\frac{90}{6}$$
$$w=15$$

w — the original width = 15 m
2w − 7 — the original length = 23 m

$2(15)-7$
$30-7$

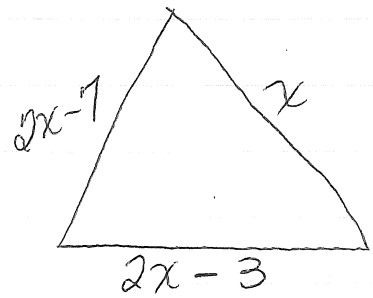
# Part 2

5) first side: $2x-7$

second side: $x$

first side +4 — third side: $2x-7+4$

$P = 80$ cm




$$2x-7+2x-3+x=80$$
$$5x-10=80$$
$$+10 \quad +10$$
$$\frac{5x}{5}=\frac{90}{5}$$
$$x=18$$

$2x-7$ — first side: 29 cm

$x$ — second side: 18 cm

first side +4 — third side: 33 cm

$29+4$

80 cm ✓

$2x-7$
$2(18)-7$
$36-7$
$29$