

HW: Oct. 19 Answer Key

1.)

$P = 54 \text{ cm}$ length $7x + 7$ $10 + 7 = 17$	x
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$$P = 2l + 2w$$

$$54 = 2(7x + 7) + 2x$$

$$54 = 2x + 14 + 2x$$

$$54 = 4x + 14$$

$$\begin{array}{r} 54 \\ -14 \\ \hline 40 = 4x \\ 4 \quad 4 \end{array}$$

ans: $x = 10$
 The width is 10 cm & the length is 17 cm.

2.)

$P = 82 \text{ cm}$ length $3x + 5$ $2(12) + 5$ $24 + 5$ 29	x
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$$P = 2l + 2w$$

$$82 = 2(3x + 5) + 2x$$

$$82 = 4x + 10 + 2x$$

$$82 = 6x + 10$$

$$\begin{array}{r} 82 \\ -10 \\ \hline 72 = 6x \\ 6 \quad 6 \end{array}$$

ans: $x = 12$
 The width is 12 cm & the length is 29 cm.

3.)

$P = 146 \text{ in}$ length $3x - 7$ $3(20) - 7$ $60 - 7$ 53	x
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$$P = 2l + 2w$$

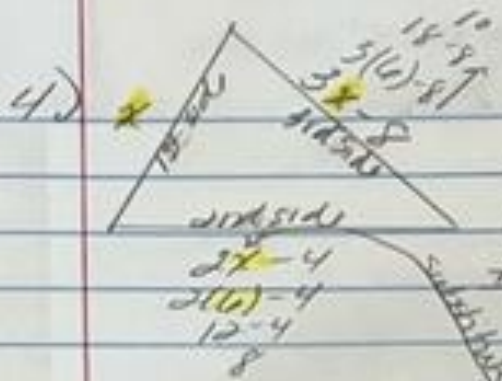
$$146 = 2(3x - 7) + 2x$$

$$146 = 6x - 14 + 2x$$

$$146 = 8x - 14$$

$$\begin{array}{r} 146 \\ +14 \\ \hline 160 = 8x \\ 8 \quad 8 \end{array}$$

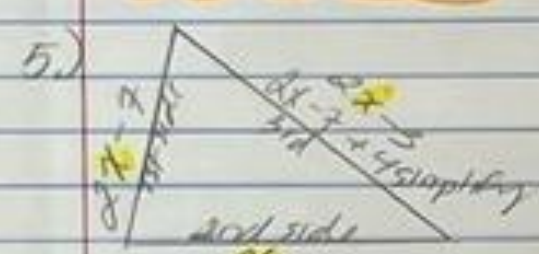
ans: $x = 20$
 The width is 20 in & the length is 53 in.



P = add up all sides
 $24 = x + (3x - 8) + (2x - 4)$
 $24 = 6x - 12$
 $+12 \quad +12$
 $36 = 6x$
 $6 \quad 6$

ans:
 1st side = 6 in
 2nd side = 8 in
 3rd side = 10 in

$x = 6$



P = add up all sides
 $80 = 2x - 7 + x + 2x - 3$
 $80 = 5x + 10$
 $+10 \quad +10$

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

$90 = 5x$
 $5 \quad 5$
 $x = 18$

$2x - 3$
 $2(18) - 3$
 $36 - 3$
 33

ans:
 1st side = 29 cm
 2nd side = 18 cm
 3rd side = 33 cm

6)

orig	x
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$2x + 2$
 $+ (15) - 2 = 30 - 2$
 28

new	$x - 3$
$P = 92m$	

$2x - 2 + 6$
 $2x + 4$

P = $2L + 2W$
 $92 = 2(2x + 4) + 2(x - 3)$
 $92 = 4x + 8 + 2x - 6$
 $92 = 6x + 2$
 $-2 \quad -2$

$90 = 6x$
 $6 \quad 6$

$x = 15$

orig. width = 15 m
 length = 28 m