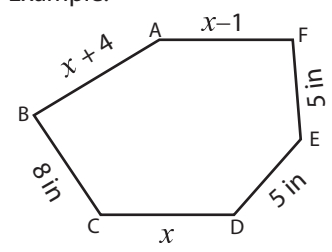
Name : _____ Score : _____

Polygon - Finding Unknown Sides

Sheet 1

Example:



Perimeter = 42 in

Perimeter = Sum of length of the sides

$42 \text{ in} = x - 1 + 5 + 5 + x + 8 + x + 4$

$42 \text{ in} = 3x + 21$

$3x = 42 - 21 = 21$

$x = \frac{21}{3} = \mathbf{7 \text{ in}}$

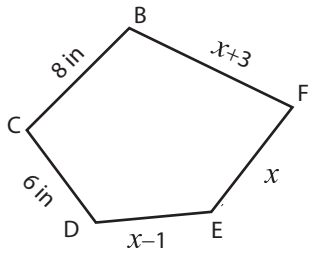
$\overline{AB} = x+4 = 7 + 4 = \mathbf{11 \text{ in}}$

$\overline{CD} = x = \mathbf{7 \text{ in}}$

$\overline{AF} = x-1 = 7 - 1 = \mathbf{6 \text{ in}}$

Find the value of x and length of the unknown sides.

1)

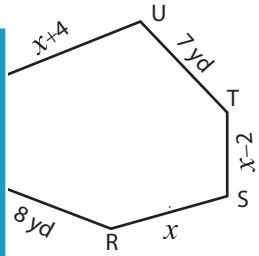


Perimeter = 37 in ; x = _____

$\overline{DE}$ = _____ ; $\overline{EF}$ = _____ ; $\overline{BF}$ = _____

2)

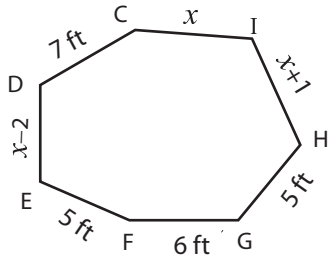
3)



eter = 40 yd ; x = _____

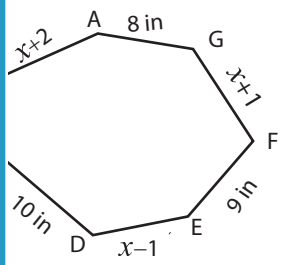
_____ ; $\overline{RS}$ = _____ ; $\overline{ST}$ = _____

4)



Perimeter = 46 ft ; x = _____

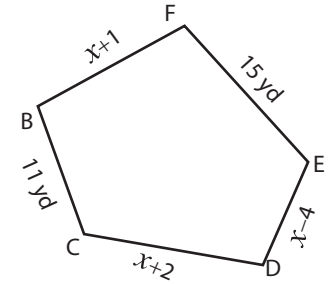
$\overline{CI}$ = _____ ; $\overline{DE}$ = _____ ; $\overline{HI}$ = _____



eter = 66 in ; x = _____

_____ ; $\overline{DE}$ = _____ ; $\overline{FG}$ = _____

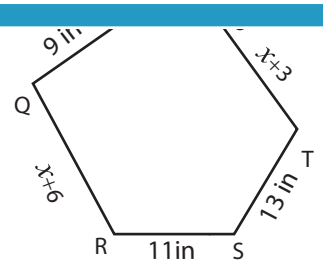
7)



Perimeter = 61 yd ; x = _____

$\overline{DE}$ = _____ ; $\overline{CD}$ = _____ ; $\overline{BF}$ = _____

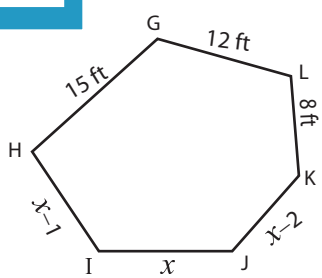
8)



Perimeter = 70 in ; x = _____

$\overline{QR}$ = _____ ; $\overline{TU}$ = _____ ; $\overline{PU}$ = _____

9)



Perimeter = 65 ft ; x = _____

$\overline{HI}$ = _____ ; $\overline{IJ}$ = _____ ; $\overline{JK}$ = _____

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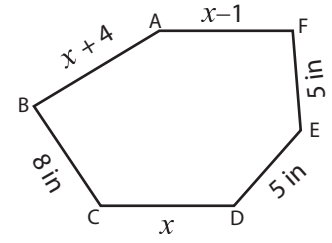
Name : _____ Score : _____

Answer key

Polygon - Finding Unknown Sides

Sheet 1

Example:



Perimeter = 42 in

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$42 \text{ in} = 3x + 21$

$3x = 42 - 21 = 21$

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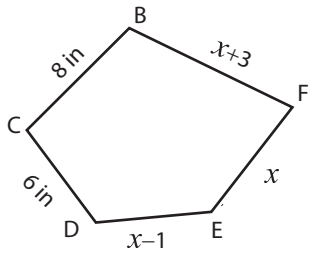
$\overline{AB} = x+4 = 7 + 4 = \mathbf{11 \text{ in}}$

$\overline{CD} = x = \mathbf{7 \text{ in}}$

$\overline{AF} = x–1 = 7 – 1 = \mathbf{6 \text{ in}}$

Find the value of x and length of the unknown sides.

1)

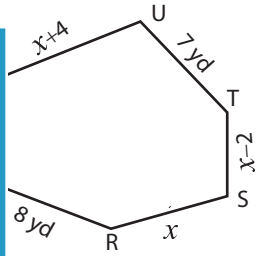


Perimeter = 37 in ; x = **7 in**

$\overline{DE}$ = **6 in** ; $\overline{EF}$ = **7 in** ; $\overline{BF}$ =

2)

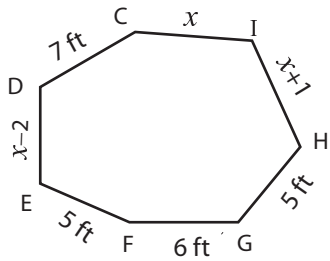
3)



…eter = 40 yd ; x = **6 yd**

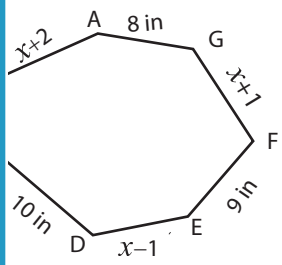
10 yd ; $\overline{RS}$ = **6 yd** ; $\overline{ST}$ = **4 yd**

4)



Perimeter = 46 ft ; x = **8 ft**

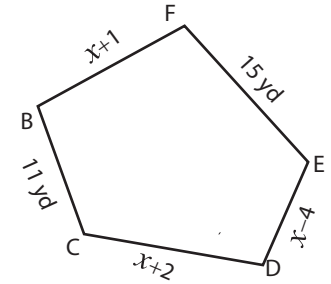
$\overline{CI}$ = **8 ft** ; $\overline{DE}$ = **6 ft** ; $\overline{HI}$ =



…eter = 66 in ; x = **10 in**

12 in ; $\overline{DE}$ = **9 in** ; $\overline{FG}$ = **11 in**

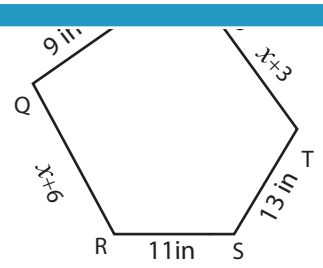
7)



Perimeter = 61 yd ; x = **12 yd**

$\overline{DE}$ = **8 yd** ; $\overline{CD}$ = **14 yd** ; $\overline{BF}$ = **13 yd**

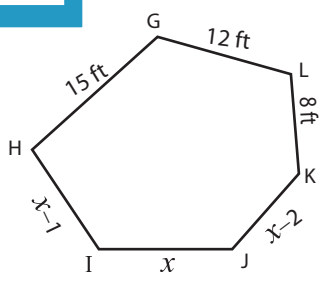
8)



Perimeter = 70 in ; x = **10 in**

$\overline{QR}$ = **16 in** ; $\overline{TU}$ = **13 in** ; $\overline{PU}$ = **8 in**

9)



Perimeter = 65 ft ; x = **11 ft**

$\overline{HI}$ = **10 ft** ; $\overline{IJ}$ = **11 ft** ; $\overline{JK}$ = **9 ft**

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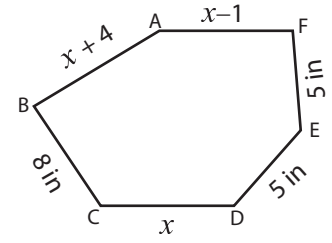
Sheet 2

Polygon - Finding Unknown Sides

Example:



Perimeter = 42 in

Perimeter = Sum of length of the sides

$42 \text{ in} = x - 1 + 5 + 5 + x + 8 + x + 4$

$42 \text{ in} = 3x + 21$

$3x = 42 - 21 = 21$

$x = \frac{21}{3} = \mathbf{7 \text{ in}}$

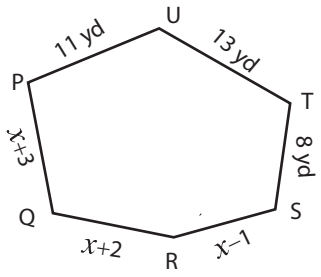
$\overline{AB} = x+4 = 7 + 4 = \mathbf{11 \text{ in}}$

$\overline{CD} = x = \mathbf{7 \text{ in}}$

$\overline{AF} = x-1 = 7 - 1 = \mathbf{6 \text{ in}}$

Find the value of x and length of the unknown sides.

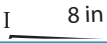
1)



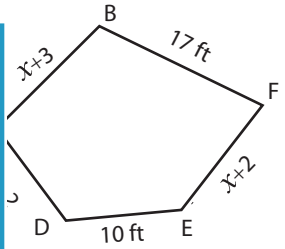
Perimeter = 63 yd ; x = _____

$\overline{PQ}$ = _____ ; $\overline{QR}$ = _____ ; $\overline{RS}$ = _____

2)



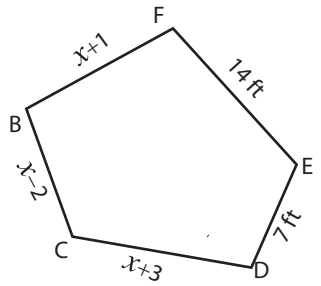
3)



imeter = 66 ft ; x = _____

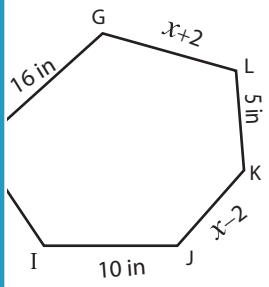
= _____ ; $\overline{EF}$ = _____ ; $\overline{BC}$ = _____

4)



Perimeter = 53 ft ; x = _____

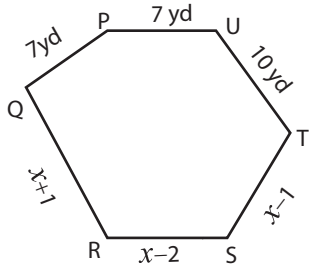
$\overline{BC}$ = _____ ; $\overline{CD}$ = _____ ; $\overline{BF}$ = _____



imeter = 55 in ; x = _____

= _____ ; $\overline{JK}$ = _____ ; $\overline{GL}$ = _____

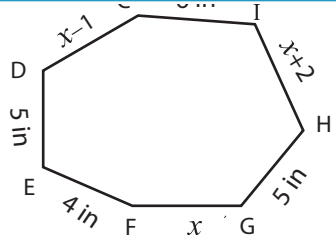
7)



Perimeter = 61 yd ; x = _____

$\overline{QR}$ = _____ ; $\overline{RS}$ = _____ ; $\overline{ST}$ = _____

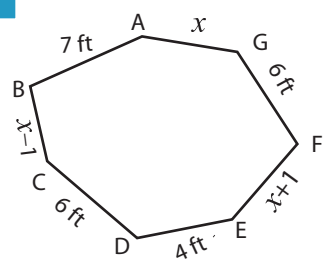
8)



Perimeter = 39 in ; x = _____

$\overline{CD}$ = _____ ; $\overline{FG}$ = _____ ; $\overline{HI}$ = _____

9)



Perimeter = 35 ft ; x = _____

$\overline{BC}$ = _____ ; $\overline{EF}$ = _____ ; $\overline{AG}$ = _____

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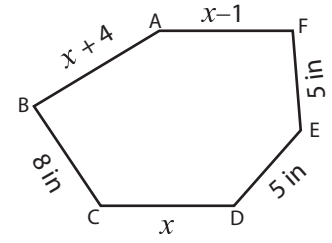
Name : _____ Score : _____

Answer key

Polygon - Finding Unknown Sides

Sheet 2

Example:



Perimeter = 42 in

Perimeter = Sum of length of the sides

$42 \text{ in} = x - 1 + 5 + 5 + x + 8 + x + 4$

$42 \text{ in} = 3x + 21$

$3x = 42 - 21 = 21$

$x = \frac{21}{3} = \mathbf{7 \text{ in}}$

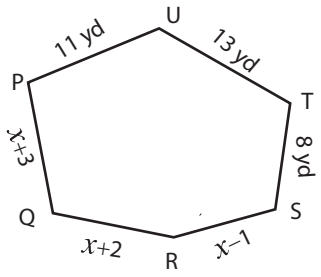
$\overline{AB} = x+4 = 7 + 4 = \mathbf{11 \text{ in}}$

$\overline{CD} = x = \mathbf{7 \text{ in}}$

$\overline{AF} = x-1 = 7 - 1 = \mathbf{6 \text{ in}}$

Find the value of x and length of the unknown sides.

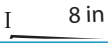
1)



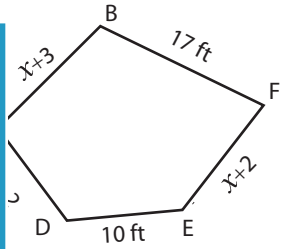
Perimeter = 63 yd ; x = **9 yd**

$\overline{PQ}$ = **12 yd** ; $\overline{QR}$ = **11 yd** ; $\overline{RS}$ =

2)



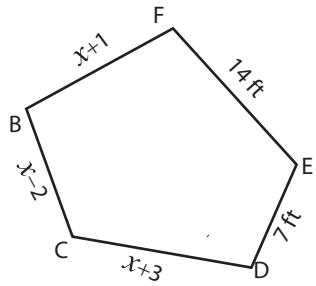
3)



imeter = 66 ft ; x = **12 ft**

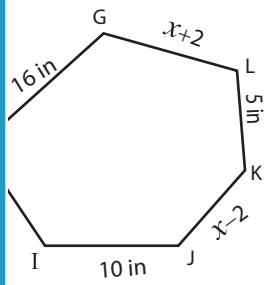
= **10 ft** ; $\overline{EF}$ = **14 ft** ; $\overline{BC}$ = **15 ft**

4)



Perimeter = 53 ft ; x = **10 ft**

$\overline{BC}$ = **8 ft** ; $\overline{CD}$ = **13 ft** ; $\overline{BF}$ =



imeter = 55 in ; x = **8 in**

= **8 in** ; $\overline{JK}$ = **6 in** ; $\overline{GL}$ = **10 in**

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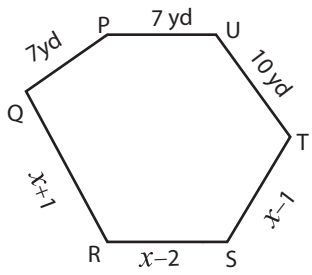
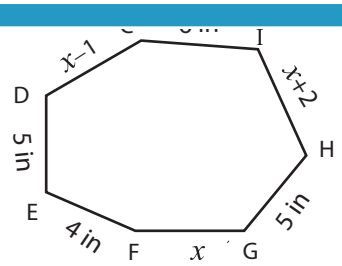


Perimeter = 61 yd ; x = **13 yd**

$\overline{QR}$ = **14 yd** ; $\overline{RS}$ = **11 yd**; $\overline{ST}$ = **12 yd**

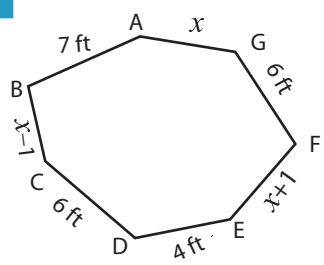
8)



Perimeter = 39 in ; x = **6 in**

$\overline{CD}$ = **5 in** ; $\overline{FG}$ = **6 in** ; $\overline{HI}$ = **8 in**

9)



Perimeter = 35 ft ; x = **4 ft**

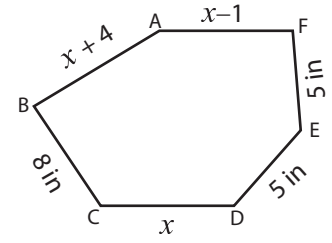
$\overline{BC}$ = **3 ft** ; $\overline{EF}$ = **5 ft** ; $\overline{AG}$ = **4 ft**

Name : _____ Score : _____

Sheet 3

Polygon - Finding Unknown Sides

Example:



Perimeter = 42 in

Perimeter = Sum of length of the sides

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$42 \text{ in} = 3x + 21$

$3x = 42 - 21 = 21$

$x = \frac{21}{3} = \mathbf{7 \text{ in}}$

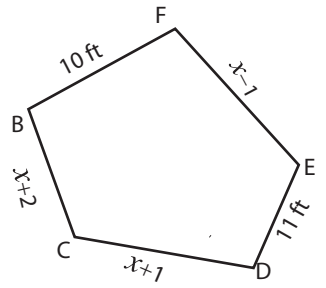
$\overline{AB} = x+4 = 7 + 4 = \mathbf{11 \text{ in}}$

$\overline{CD} = x = \mathbf{7 \text{ in}}$

$\overline{AF} = x-1 = 7 - 1 = \mathbf{6 \text{ in}}$

Find the value of x and length of the unknown sides.

1)

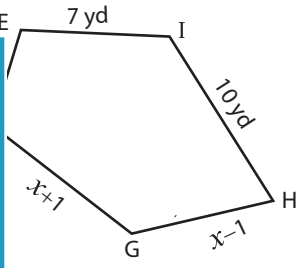


Perimeter = 44 ft ; x = _____

$\overline{BC}$ = _____ ; $\overline{CD}$ = _____ ; $\overline{EF}$ = _____

2)

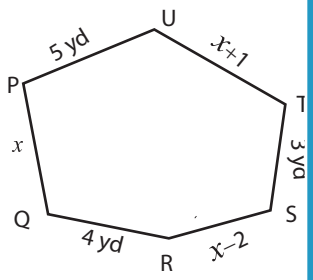
3)



neter = 38 yd ; x = _____

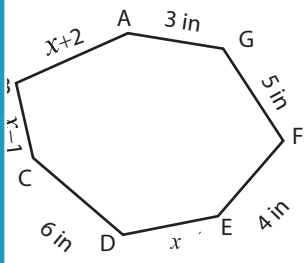
_____ ; $\overline{FG}$ = _____ ; $\overline{GH}$ = _____

4)



Perimeter = 26 yd ; x = _____

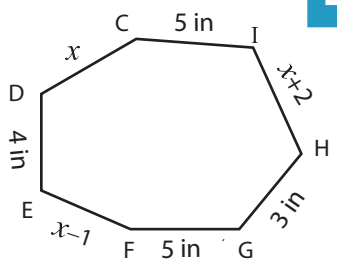
$\overline{PQ}$ = _____ ; $\overline{RS}$ = _____ ; $\overline{TU}$ = _____



rimeter = 28 in ; x = _____

= _____ ; $\overline{BC}$ = _____ ; $\overline{DE}$ = _____

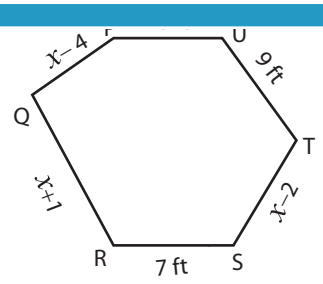
7)



Perimeter = 30 in ; x = _____

$\overline{CD}$ = _____ ; $\overline{EF}$ = _____ ; $\overline{HI}$ = _____

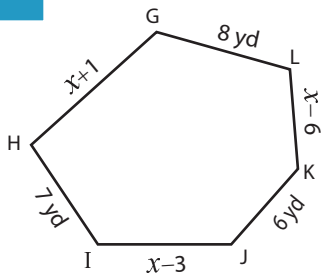
8)



Perimeter = 47 ft ; x = _____

$\overline{PQ}$ = _____ ; $\overline{QR}$ = _____ ; $\overline{ST}$ = _____

9)



Perimeter = 46 yd ; x = _____

$\overline{GH}$ = _____ ; $\overline{IJ}$ = _____ ; $\overline{KL}$ = _____

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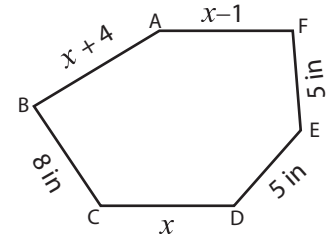
Answer key

Polygon - Finding Unknown Sides

Sheet 3

Example:



Perimeter = 42 in

Perimeter = Sum of length of the sides

$42 = x - 1 + 5 + 5 + x + 8 + x + 4$

$42 = 3x + 21$

$3x = 42 - 21 = 21$

$x = \frac{21}{3} = 7$ in

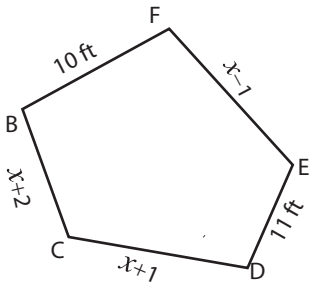
$\overline{AB} = x+4 = 7 + 4 = 11$ in

$\overline{CD} = x = 7$ in

$\overline{AF} = x-1 = 7 - 1 = 6$ in

Find the value of x and length of the unknown sides.

1)

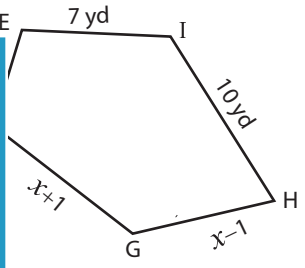


Perimeter = 44 ft ; x = **7 ft**

$\overline{BC}$ = **9 ft** ; $\overline{CD}$ = **8 ft** ; $\overline{EF}$ =

2)

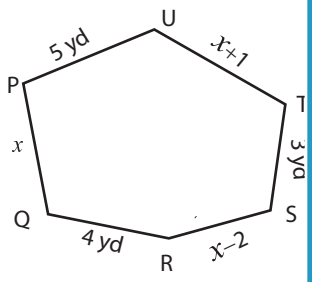
3)



neter = 38 yd ; x = **8 yd**

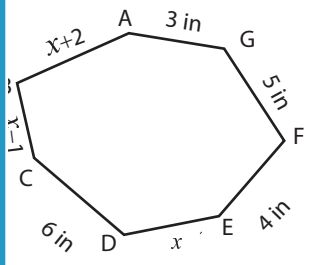
= **5 yd** ; $\overline{FG}$ = **9 yd** ; $\overline{GH}$ = **7 yd**

4)



Perimeter = 26 yd ; x = **5 yd**

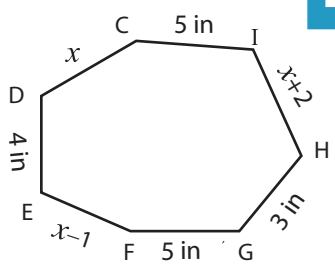
$\overline{PQ}$ = **5 yd** ; $\overline{RS}$ = **3 yd** ; $\overline{TU}$ =



rimeter = 28 in ; x = **3 in**

= **5 in** ; $\overline{BC}$ = **2 in** ; $\overline{DE}$ = **3 in**

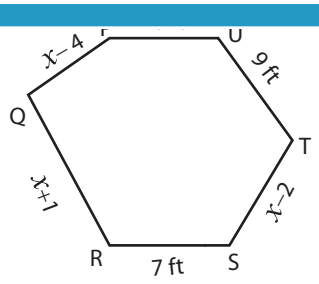
7)



Perimeter = 30 in ; x = **4 in**

$\overline{CD}$ = **4 in** ; $\overline{EF}$ = **3 in** ; $\overline{HI}$ = **6 in**

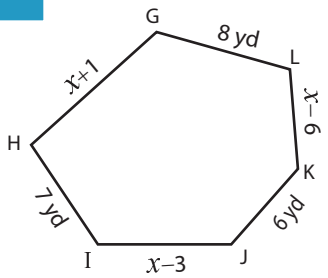
8)



Perimeter = 47 ft ; x = **10 ft**

$\overline{PQ}$ = **6 ft** ; $\overline{QR}$ = **11 ft** ; $\overline{ST}$ = **8 ft**

9)



Perimeter = 46 yd ; x = **11 yd**

$\overline{GH}$ = **12 yd** ; $\overline{IJ}$ = **8 yd** ; $\overline{KL}$ = **5 yd**

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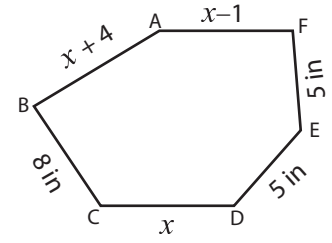
Sheet 4

Polygon - Finding Unknown Sides

Example:



Perimeter = 42 in

Perimeter = Sum of length of the sides

$42 = x - 1 + 5 + 5 + x + 8 + x + 4$

$42 = 3x + 21$

$3x = 42 - 21 = 21$

$x = \frac{21}{3} = \mathbf{7\ in}$

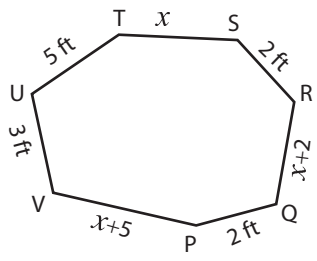
$\overline{AB} = x+4 = 7 + 4 = \mathbf{11\ in}$

$\overline{CD} = x = \mathbf{7\ in}$

$\overline{AF} = x-1 = 7 - 1 = \mathbf{6\ in}$

Find the value of x and length of the unknown sides.

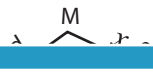
1)



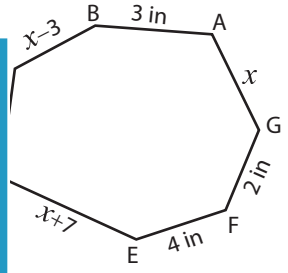
Perimeter = 46 ft ; x = _____

$\overline{QR}$ = _____ ; $\overline{ST}$ = _____ ; $\overline{PV}$ = _____

2)



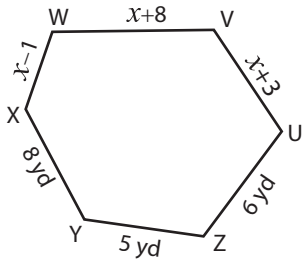
3)



eter = 31 in ; x = _____

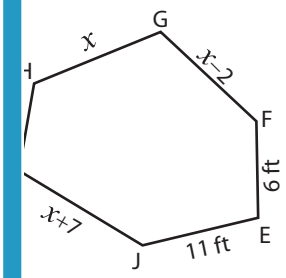
_____ ; $\overline{DE}$ = _____ ; $\overline{AG}$ = _____

4)



Perimeter = 41 yd ; x = _____

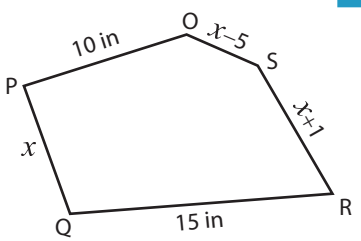
$\overline{UV}$ = _____ ; $\overline{VW}$ = _____ ; $\overline{WX}$ = _____



eter = 62 ft ; x = _____

_____ ; $\overline{GH}$ = _____ ; $\overline{IJ}$ = _____

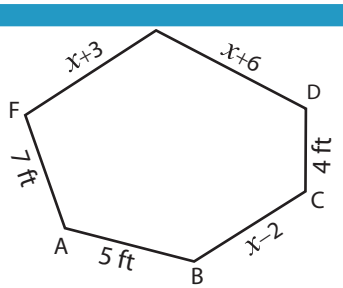
7)



Perimeter = 39 in ; x = _____

$\overline{PQ}$ = _____ ; $\overline{RS}$ = _____ ; $\overline{OS}$ = _____

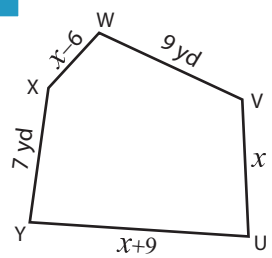
8)



Perimeter = 53 ft ; x = _____

$\overline{BC}$ = _____ ; $\overline{DE}$ = _____ ; $\overline{EF}$ = _____

9)



Perimeter = 40 yd ; x = _____

$\overline{UV}$ = _____ ; $\overline{WX}$ = _____ ; $\overline{UY}$ = _____

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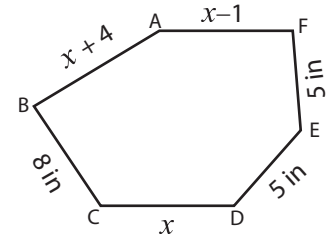
Answer key

Polygon - Finding Unknown Sides

Sheet 4

Example:



Perimeter = 42 in

Perimeter = Sum of length of the sides

$42 = x - 1 + 5 + 5 + x + 8 + x + 4$

$42 = 3x + 21$

$3x = 42 - 21 = 21$

$x = \frac{21}{3} = 7$ in

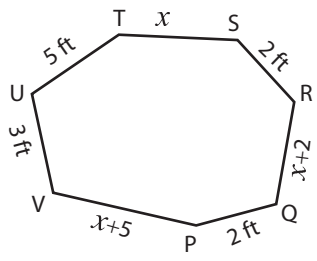
$\overline{AB} = x+4 = 7 + 4 = 11$ in

$\overline{CD} = x = 7$ in

$\overline{AF} = x-1 = 7 - 1 = 6$ in

Find the value of x and length of the unknown sides.

1)

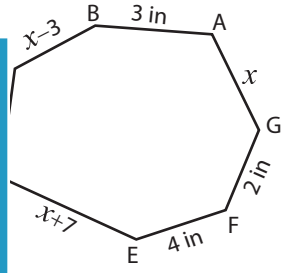


Perimeter = 46 ft ; x = **9 ft**

$\overline{QR}$ = **11 ft** ; $\overline{ST}$ = **9 ft** ; $\overline{PV}$ =

2)

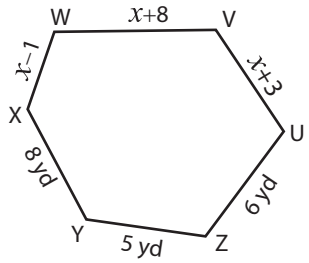
3)



eter = 31 in ; x = **5 in**

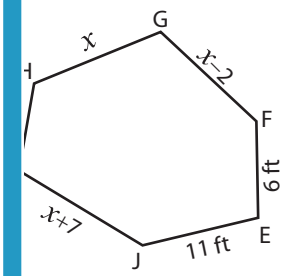
2 in ; $\overline{DE}$ = **12 in** ; $\overline{AG}$ = **5 in**

4)



Perimeter = 41 yd ; x = **4 yd**

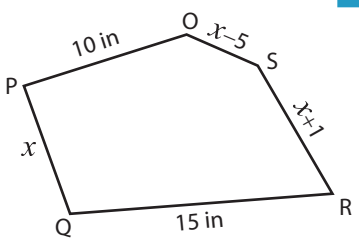
$\overline{UV}$ = **7 yd** ; $\overline{VW}$ = **12 yd** ; $\overline{WX}$ =



eter = 62 ft ; x = **12 ft**

10 ft ; $\overline{GH}$ = **12 ft** ; $\overline{IJ}$ = **19 ft**

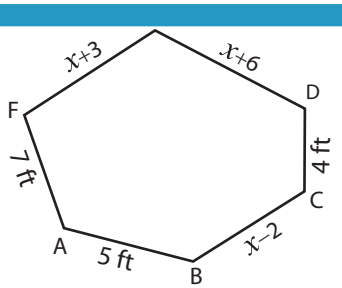
7)



Perimeter = 39 in ; x = **6 in**

$\overline{PQ}$ = **6 in** ; $\overline{RS}$ = **7 in** ; $\overline{OS}$ = **1 in**

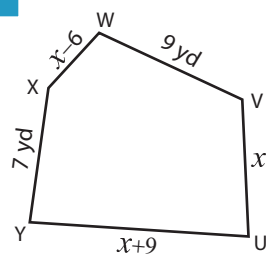
8)



Perimeter = 53 ft ; x = **10 ft**

$\overline{BC}$ = **8 ft** ; $\overline{DE}$ = **16 ft** ; $\overline{EF}$ = **13 ft**

9)



Perimeter = 40 yd ; x = **7 yd**

$\overline{UV}$ = **7 yd** ; $\overline{WX}$ = **1 yd** ; $\overline{UY}$ = **16 yd**

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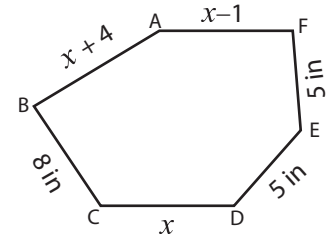
Sheet 5

Polygon - Finding Unknown Sides

Example:



Perimeter = 42 in

Perimeter = Sum of length of the sides

$42 = x - 1 + 5 + 5 + x + 8 + x + 4$

$42 = 3x + 21$

$3x = 42 - 21 = 21$

$x = \frac{21}{3} = \mathbf{7\ in}$

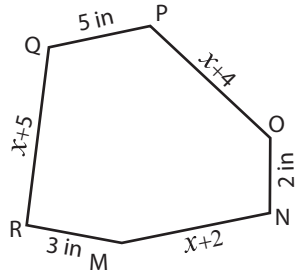
$\overline{AB} = x+4 = 7 + 4 = \mathbf{11\ in}$

$\overline{CD} = x = \mathbf{7\ in}$

$\overline{AF} = x-1 = 7 - 1 = \mathbf{6\ in}$

Find the value of x and length of the unknown sides.

1)

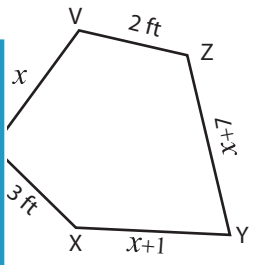


Perimeter = 60 in ; x = _____

$\overline{MN}$ = _____ ; $\overline{OP}$ = _____ ; $\overline{QR}$ = _____

2)

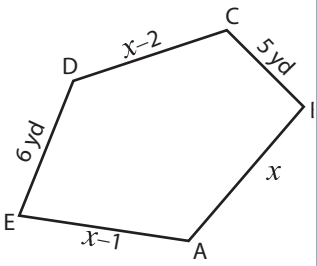
3)



eter = 28 ft ; x = _____

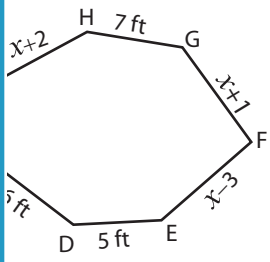
_____ ; $\overline{XY}$ = _____ ; $\overline{YZ}$ = _____

4)



Perimeter = 38 yd ; x = _____

$\overline{AB}$ = _____ ; $\overline{CD}$ = _____ ; $\overline{AE}$ = _____



eter = 55 ft ; x = _____

_____ ; $\overline{FG}$ = _____ ; $\overline{HI}$ = _____

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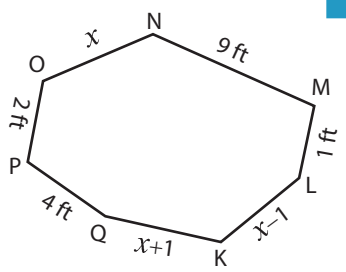
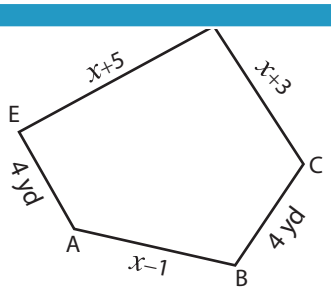


Perimeter = 34 ft ; x = _____

$\overline{KL}$ = _____ ; $\overline{NO}$ = _____ ; $\overline{KQ}$ = _____

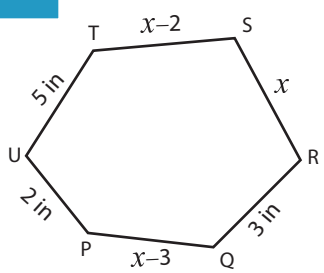
8)



Perimeter = 51 yd ; x = _____

$\overline{AB}$ = _____ ; $\overline{CD}$ = _____ ; $\overline{DE}$ = _____

9)



Perimeter = 29 in ; x = _____

$\overline{PQ}$ = _____ ; $\overline{RS}$ = _____ ; $\overline{ST}$ = _____

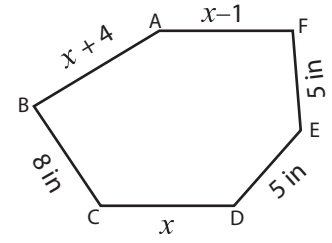
Name : _____ Score : _____

Answer key

Polygon - Finding Unknown Sides

Sheet 5

Example:



Perimeter = 42 in

Perimeter = Sum of length of the sides

$42 = x - 1 + 5 + 5 + x + 8 + x + 4$

$42 = 3x + 21$

$3x = 42 - 21 = 21$

$x = \frac{21}{3} = 7$ **in**

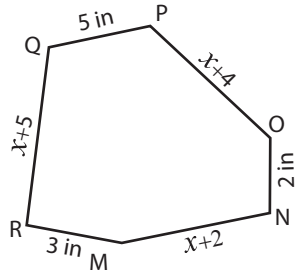
$\overline{AB} = x+4 = 7 + 4 =$ **11 in**

$\overline{CD} = x =$ **7 in**

$\overline{AF} = x-1 = 7 - 1 =$ **6 in**

Find the value of x and length of the unknown sides.

1)

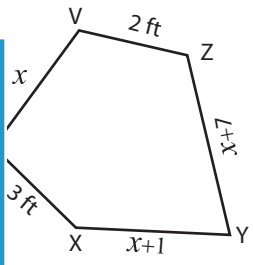


Perimeter = 60 in ; $x =$ **13 in**

$\overline{MN} =$ **15 in**; $\overline{OP} =$ **17 in** ; $\overline{QR} =$

2)

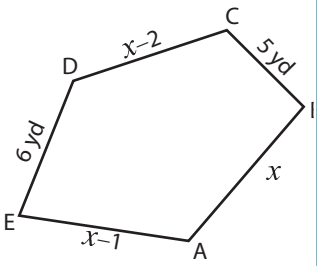
3)



neter = 28 ft ; $x =$ **5 ft**

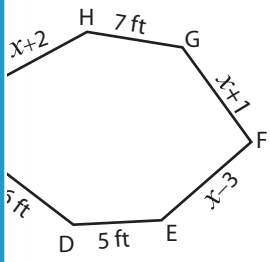
: **5 ft** ; $\overline{XY} =$ **6 ft** ; $\overline{YZ} =$ **12 ft**

4)



Perimeter = 38 yd ; $x =$ **10 yd**

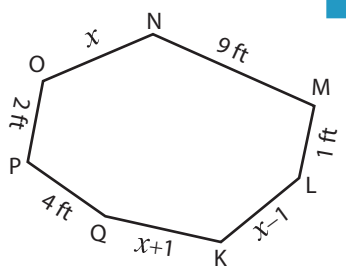
$\overline{AB} =$ **10yd**; $\overline{CD} =$ **8 yd** ; $\overline{AE} =$



neter = 55 ft ; $x =$ **11 ft**

8 ft ; $\overline{FG} =$ **12 ft** ; $\overline{HI} =$ **13 ft**

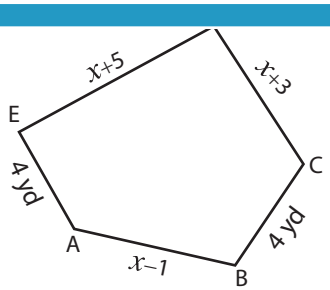
7)



Perimeter = 34 ft ; $x =$ **6 ft**

$\overline{KL} =$ **5 ft** ; $\overline{NO} =$ **6 ft** ; $\overline{KQ} =$ **7 ft**

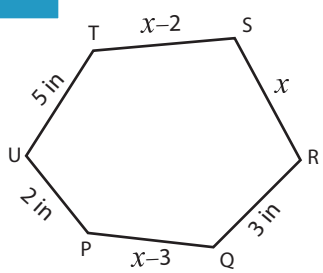
8)



Perimeter = 51 yd ; $x =$ **12 yd**

$\overline{AB} =$ **11 yd** ; $\overline{CD} =$ **15 yd** ; $\overline{DE} =$ **17 yd**

9)



Perimeter = 29 in ; $x =$ **8 in**

$\overline{PQ} =$ **5 in** ; $\overline{RS} =$ **8 in** ; $\overline{ST} =$ **6 in**

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