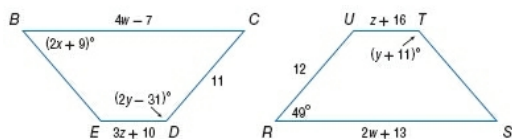


4-2 Congruent Triangles

Polygon $BCDE \cong$ polygon $RSTU$. Find each value.



13. x

ANSWER:

20

14. y

ANSWER:

42

15. z

ANSWER:

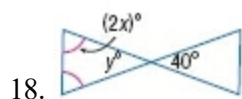
3

16. w

ANSWER:

10

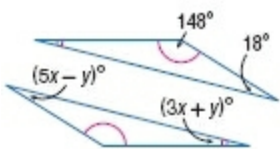
Find x and y .



18.

ANSWER:

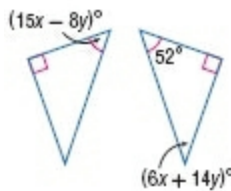
$y = 40$; $x = 35$



19.

ANSWER:

$x = 4$; $y = 2$



20.

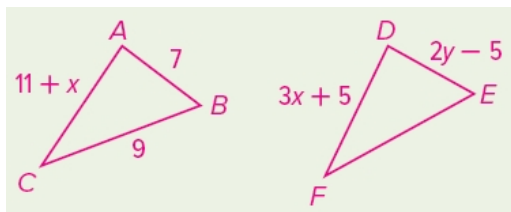
ANSWER:

$x = 4$; $y = 1$

ALGEBRA Draw and label a figure to represent the congruent triangles. Then find x and y .

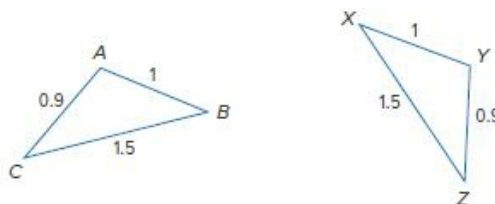
28. $\triangle ABC \cong \triangle DEF$, $AB = 7$, $BC = 9$, $AC = 11 + x$, $DF = 3x + 5$, and $DE = 2y - 5$

ANSWER:



$x = 3$; $y = 6$

37. **ERROR ANALYSIS** Jasmine and Will are evaluating the congruent figures below. Jasmine says that $\triangle CAB \cong \triangle ZYX$ and Will says that $\triangle ABC \cong \triangle XYZ$. Is either of them correct? Explain.

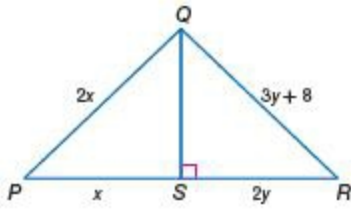


ANSWER:

Both; Sample answer: $\angle A$ corresponds with $\angle Y$, $\angle B$ corresponds with $\angle X$, and $\angle C$ corresponds with $\angle Z$. $\triangle CAB$ is the same triangle as $\triangle ABC$ and $\triangle ZYX$ is the same triangle as $\triangle XYZ$.

4-2 Congruent Triangles

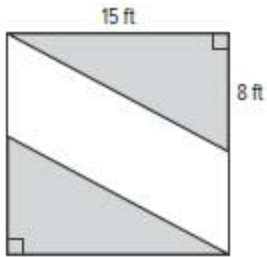
39. **PERSEVERENCE** Find x and y if $\triangle PQS \cong \triangle RQS$.



ANSWER:

$$x = 16, y = 8$$

44. A cement path is placed as shown in a square region of a park. If the triangular grassy areas along both sides of the path are congruent, what is the perimeter of the path?

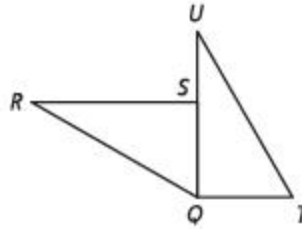


- A 40 ft
- B 48 ft
- C 60 ft
- D 105 ft

ANSWER:

B

45. $\triangle QRS \cong \triangle TUQ$



Which statement is not necessarily true?

- A $\overline{RS} \cong \overline{UQ}$
- B $\overline{SQ} \cong \overline{QT}$
- C $\angle T \cong \angle R$
- D $\angle RSQ \cong \angle UQT$
- E $\angle RQS \cong \angle UTQ$

ANSWER:

C

47. Use the following information to find the values of x and y . $\triangle TUV \cong \triangle HJK$, $TU = 14$, $UV = 18$, $TV = 4y + 1$, $JK = 2x - 4$, and $HK = 6y - 5$.

ANSWER:

$$x = 11, y = 3$$