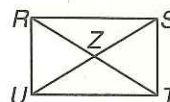


8-4 Practice

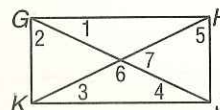
Rectangles

ALGEBRA *RSTU* is a rectangle.



1. If $UZ = x + 21$ and $ZS = 3x - 15$, find US .
2. If $RZ = 3x + 8$ and $ZS = 6x - 28$, find UZ .
3. If $RT = 5x + 8$ and $RZ = 4x + 1$, find ZT .
4. If $m\angle SUT = 3x + 6$ and $m\angle RUS = 5x - 4$, find $m\angle SUT$.
5. If $m\angle SRT = x^2 + 9$ and $m\angle UTR = 2x + 44$, find x .
6. If $m\angle RSU = x^2 - 1$ and $m\angle TUS = 3x + 9$, find $m\angle RSU$.

GHJK is a rectangle. Find each measure if $m\angle 1 = 37$.



- | | |
|-----------------|-----------------|
| 7. $m\angle 2$ | 8. $m\angle 3$ |
| 9. $m\angle 4$ | 10. $m\angle 5$ |
| 11. $m\angle 6$ | 12. $m\angle 7$ |

COORDINATE GEOMETRY Determine whether *BGHL* is a rectangle given each set of vertices. Justify your answer.

13. $B(-4, 3), G(-2, 4), H(1, -2), L(-1, -3)$

14. $B(-4, 5), G(6, 0), H(3, -6), L(-7, -1)$

15. $B(0, 5), G(4, 7), H(5, 4), L(1, 2)$

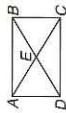
16. **LANDSCAPING** Huntington Park officials approved a rectangular plot of land for a Japanese Zen garden. Is it sufficient to know that opposite sides of the garden plot are congruent and parallel to determine that the garden plot is rectangular? Explain.

NAME _____ DATE _____ PERIOD _____

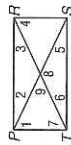
8-4 Skills Practice
Rectangles

ALGEBRA $ABCD$ is a rectangle.

- If $AC = 2x + 13$ and $DB = 4x - 1$, find x . **7**
- If $AC = x + 3$ and $DB = 3x - 19$, find AC . **14**
- If $AE = 3x + 3$ and $EC = 5x - 15$, find AC . **60**
- If $DE = 6x - 7$ and $AE = 4x + 9$, find DB . **82**
- If $m\angle DAC = 2x + 4$ and $m\angle BAC = 3x + 1$, find x . **17**
- If $m\angle BDC = 7x + 1$ and $m\angle ADB = 9x - 7$, find $m\angle BDC$. **43**
- If $m\angle ABD = x^2 - 7$ and $m\angle CDB = 4x + 5$, find x . **6**
- If $m\angle BAC = x^2 + 3$ and $m\angle CAD = x + 15$, find $m\angle BAC$. **67 or 84**



- $PRST$ is a rectangle. Find each measure if $m\angle 1 = 50$.
- $m\angle 2$ **40**
 - $m\angle 3$ **40**
 - $m\angle 4$ **50**
 - $m\angle 6$ **40**
 - $m\angle 8$ **100**



COORDINATE GEOMETRY Determine whether $TUXY$ is a rectangle given each set of vertices. Justify your answer.

- $T(-3, -2)$, $U(-4, 2)$, $X(2, 4)$, $Y(3, 0)$
No; sample answer: Angles are not right angles.
- $T(-6, 3)$, $U(0, 6)$, $X(2, 2)$, $Y(-4, -1)$
Yes; sample answer: Opposite sides are congruent and diagonals are congruent.
- $T(4, 1)$, $U(3, -1)$, $X(-3, 2)$, $Y(-2, 4)$
Yes; sample answer: Opposite sides are parallel and consecutive sides are perpendicular.

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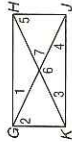
8-4 Practice (Average)
Rectangles

ALGEBRA $RSTU$ is a rectangle.

- If $UZ = x + 21$ and $ZS = 3x - 15$, find US . **78**
- If $RZ = 3x + 8$ and $ZS = 6x - 28$, find UZ . **44**
- If $RT = 5x + 8$ and $RZ = 4x + 1$, find ZT . **9**
- If $m\angle SUT = 3x + 6$ and $m\angle RUS = 5x - 4$, find $m\angle SUT$. **39**
- If $m\angle SRT = x^2 + 9$ and $m\angle UTR = 2x + 44$, find x . **-5 or 7**
- If $m\angle RSU = x^2 - 1$ and $m\angle TUS = 3x + 9$, find $m\angle RSU$. **24 or 3**



- $GHJK$ is a rectangle. Find each measure if $m\angle 1 = 37$.
- $m\angle 2$ **53**
 - $m\angle 3$ **37**
 - $m\angle 4$ **37**
 - $m\angle 5$ **53**
 - $m\angle 6$ **106**
 - $m\angle 7$ **74**



COORDINATE GEOMETRY Determine whether $BGHL$ is a rectangle given each set of vertices. Justify your answer.

- $B(-4, 3)$, $G(-2, 4)$, $H(1, -2)$, $L(-1, -3)$
Yes; sample answer: Opposite sides are parallel and consecutive sides are perpendicular.
- $B(-4, 5)$, $G(6, 0)$, $H(3, -6)$, $L(-7, -1)$
Yes; sample answer: Opposite sides are congruent and diagonals are congruent.
- $B(0, 5)$, $G(4, 7)$, $H(5, 4)$, $L(1, 2)$
No; sample answer: Diagonals are not congruent.

- LANDSCAPING Huntington Park officials approved a rectangular plot of land for a Japanese Zen garden. Is it sufficient to know that opposite sides of the garden plot are congruent and parallel to determine that the garden plot is rectangular? Explain.
No; if you only know that opposite sides are congruent and parallel, the most you can conclude is that the plot is a parallelogram.

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