Name _____ Date _____ Class_____

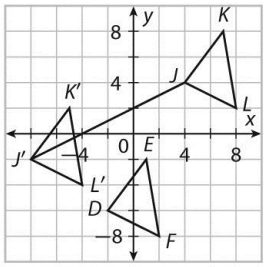
MODULE 17 Transformations and Symmetry

LESSON 17-1

Practice and Problem Solving: A/B

1. $R'(5, 5)$
   $S'(9, 2)$
   $T'(4, 2)$
2. 5 units; 5 units
3. $(x + 3, y - 4)$
4. $\langle 3, -4 \rangle$
5. Any combination of *RR', SS',* and *TT'.*

Graph for Problems 6 and 8:

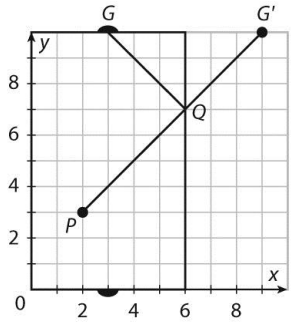


6. $\langle -12, -6 \rangle$
7. $\frac{1}{2}$
8. $D(-2, -6)$
   $E(1, -2)$
   $F(2, -8)$

LESSON 17-2

Practice and Problem Solving: A/B

1. C
2. E and F
3. H
4. $y = -4.5$
5. D, F, G



6. The reflection of $G(3, 10)$ over the line $x = 6$ is $G'(9, 10)$. A line from P to G' intersects the wall at $Q(6, 7)$. A puck that goes from P to Q bounces off the wall at the same angle that it hits and will land in the goal.
7. (6, 8)
8. (6, 6)
9. (6 , 8)

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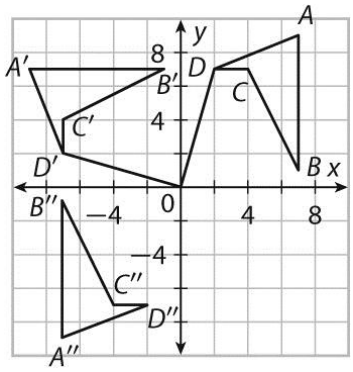
LESSON 17-3

Practice and Problem Solving: A/B

Figure for questions 1–5:



1. 90 degrees
2. $A(7, 9)$ $A'(-9, 7)$
   $B(7, 1)$ $B'(-1, 7)$
   $C(4, 7)$ $C'(-7, 4)$
   $D(2, 7)$ $D'(-7, 2)$
   $P(x, y)$ $P'(-y, x)$
3. x-coordinates: $-$
   y-coordinates: $-$
   quadrant: 3rd
4. *See figure.*
5. $(-x, -y)$
6. 140°
7. $2\frac{1}{2}$
8. 72°

LESSON 17-4

Practice and Problem Solving: A/B

1. $x = 4$; $y = 7$
2. rotational symmetry.
3. No. $360° \div 50°$ is not a whole number, so the points will not be evenly spaced all the way around the center.
4. both; 4 lines; 90°
5. rotational symmetry; 180°
6. line symmetry; 1 line
7. both; 5 lines; 72°
8. isosceles trapezoid: 1; rectangle with sides 2-4-2-4: 2; square: 4; rhombus: 2; parallelogram with sides 2-4-2-4 and angles $\neq 90°$: 0
9. 5; 6