Exercises, Pages 664–665

1. about $\frac{2}{3}$; rotation 90° **3.** $\overrightarrow{RS} \parallel \overrightarrow{R'S'}$ **5.** 2; 3 **7.** $y = 2x + 3$ **9.** Refer to Sel. Ans. for p. 527.

Exercises, Pages 666–667

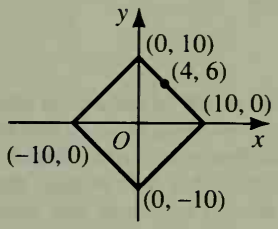
1. rt. **3.** obt. **5. a.** slope of $\overline{AB} = \frac{3}{2}$, slope of $\overline{BC} = -\frac{2}{3}$; $\overline{AB} \perp \overline{BC}$ **b.** $(AB)^2 = 13$, $(BC)^2 = 52$, $(AC)^2 = 65$ **7.** $\mathcal{R}_{N,-90}$ followed by $D_{N,2}$; 2 **9.** The left fig. has area c^2; the right fig. has area $b^2 + a^2$. This suggests the Pyth. Thm. **11–21.** Refer to Sel. Ans. of specified pages.

Exercises, Pages 668–669

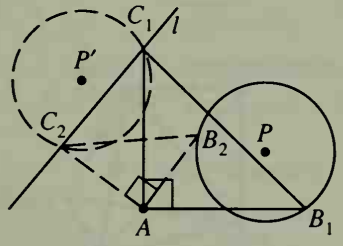
1. a. $(x - 6)^2 + y^2 = 25$ **b.** Yes **c.** No **3. b.** $M(-1, 7)$ **c.** slope of $\overline{OM} = -7$; slope of $\overline{AB} = \frac{1}{7}$; Thm. 13-4 **5.** radius of outer $\odot = \sqrt{225} = 15$, radius of inner $\odot = \sqrt{25} = 5$, dist. bet. ctrs. of $\odot$s is 10; $10 + 5 = 15$ **7. a.** $\odot O$; the other tan. to $\odot O$ from P **b.** $\overline{PA}$ and its image are $\cong$. **c.** Thm. 9-1 Cor. **9.** To find B, rotate C $-60°$ about A. **11–17.** Refer to Sel. Ans. of specified pages.

Exercises, Page 670

3. 1:4 **5.** $|x| + |y| = 10$



7. Rotate $\odot P$ 90° about A to locate two points, C_1 and C_2, then rotate each $-90°$ about A to get B_1 and B_2.



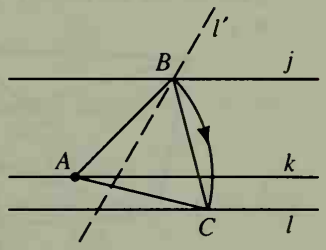
9–15. Refer to Sel. Ans. of specified pages.

Exercises, Pages 671–672

1. 32 **3.** 64 **5. a.** $-60°, \frac{1}{2}$ **b.** reg. II; reg. III; reg. IV **c.** $\frac{1}{4}, \frac{1}{16}, \frac{1}{64}$

Exercises, Pages 674–675

1. Plans for proofs: **a.** Use Thm. 4-5 **b.** Reflect $\triangle ADC$ to $\triangle ABC$. The isom. preserves dist. **c.** Assign coords. $A(0, a)$, $B(b, 0)$, $C(0, -c)$, $D(-b, 0)$ and use the dist. form. **3. a.** Plan for proof: Use SAS to prove $\triangle XBC \cong \triangle ABY$. **b.** $\overline{XC}$ Answers may vary in Exs. 5–17. **5.** square; use a coord. approach. **7.** Use a syn. or coord. approach. **9.** Use a syn. approach. Draw $\overline{XY} \parallel \overline{BC}$ through P with X on $\overline{AB}$ and Y on $\overline{DC}$. **11.** Use a syn. approach. Extend $\overrightarrow{AB}$ and $\overrightarrow{DC}$ to int. at rt. $\angle X$. Then use the Pyth. Thm. **13.** Use a transf. approach. Trans. l toward m a dist. AB. **15.** Use a transf. approach. See the figure at the right. Const. $\parallel$ lines j, k, l. Choose A on k. Rotate l 60° about A to get B on j. Rotate B $-60°$ about A to get C on l.



Ex. 15

17. Use a syn. approach. Note that $XN = \frac{1}{2}AB$ and $YN = \frac{1}{2}DC$.