Self-Test 2, Page 320

1. 
$$\frac{7}{24}$$
 2.  $\frac{24}{25}$  3.  $\frac{7}{25}$  4.  $\frac{24}{7}$  5. 74 6. 74 7. 109 8. 113 9. about 45 m

Chapter Review, Pages 323-324

1. 6 3. 
$$5\sqrt{6}$$
 5.  $3\sqrt{5}$  7.  $7\sqrt{2}$  9. acute 11. rt. 13.  $5\sqrt{3}$  15. 16 17. a. 1.5 b.  $\frac{2}{3}$  c. 34 19. a.  $\frac{12}{13}$  b.  $\frac{12}{13}$  c. 67 21. 57 23. 23

Preparing for College Entrance Exams, Page 326

Cumulative Review, Page 327

1. Seg. Add. Post. 3. corollary 5. contrapositive 7.  $1:\sqrt{2}$  9. a. If a  $\triangle$  is equiangular, then it is isos. b. If a  $\triangle$  is isos., then it is equiangular. 11. 36 13. 20 15. Since  $\overline{AX}$  is a median,  $\overline{BX} \cong \overline{CX}$ . Since  $\overline{AX}$  is an altitude,  $\angle AXB \cong \angle AXC$ . Thus,  $\triangle AXB \cong \triangle AXC$  (SAS) and  $\overline{AB} \cong \overline{AC}$  (CPCT). By def.,  $\triangle ABC$  is isos. 17. 1.  $\angle WXY \cong \angle XZY$  (Given) 2.  $\angle Y \cong \angle Y$  (Reflex.) 3.  $\triangle XYW \sim \triangle ZYX$  (AA $\sim$ ) 4.  $\frac{XY}{ZY} = \frac{WY}{XY}$  or  $(XY)^2 = WY \cdot ZY$  (Corr. sides of  $\sim \triangle$  are in prop.)

## Chapter 9

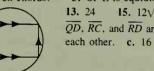
Written Exercises, Pages 330-331

1. The midpts. lie on a diam.  $\bot$  to the given chords.

3. b. It is equidist. from the vertices. c. at the midpt. of the hyp. d. 5

5. 8, 22

9. 15.  $12\sqrt{3}$ 17. a. rhom.;  $\bigcirc Q \cong \bigcirc R$  so  $\overline{QC}$ ,



3. b. It is equidist. from the vertices. c. at the midpt.

13. 24 15.  $12\sqrt{3}$  17. a. rhom.;  $\bigcirc Q \cong \bigcirc R$  so  $\overline{QC}$ ,  $\overline{QD}$ ,  $\overline{RC}$ , and  $\overline{RD}$  are  $\cong$ . b. Diags. of rhom. are  $\bot$  bis. of each other. c. 16 19.  $4\sqrt{6}$ 

Extra, Page 332

1. 4 odd, 1 even; cannot be traced 3. 2 odd, 6 even; can be traced 5. There are more than 2 odd vertices.

Written Exercises, Pages 335-337

1. 8 3. 12 5. 8.2 7. a.  $\overline{AB} \cong \overline{CD}$  Proof: 1. Draw  $\overline{AB}$  and  $\overline{CD}$  int. at  $\overline{Z}$ . (Through any 2 pts. there is ex. 1 line.) 2.  $\overline{ZA} + \overline{AB} = \overline{ZB}$ ;  $\overline{ZC} + \overline{CD} = \overline{ZD}$  (Seg. Add. Post.) 3.  $\overline{ZB} = \overline{ZD}$  (Thm. 9-1 Cor.) 4.  $\overline{ZA} + \overline{AB} = \overline{ZC} + \overline{CD}$  (Subst.) 5.  $\overline{ZA} = \overline{ZC}$  (Thm. 9-1 Cor.) 6.  $\overline{AB} \cong \overline{CD}$  (Subtr. Prop. =) b. Yes 9. a. square;  $\overline{XZ} \perp \overline{OX}$ , so  $\overline{XZ} \parallel \overline{OY}$ . Similarly,  $\overline{ZY} \parallel \overline{OX}$ , so  $\overline{OXZY}$  is a rect. Since  $\overline{OX} = \overline{OY}$ ,  $\overline{OXZY}$  is a square. b.  $5\sqrt{2}$  11.  $\overline{AR} \perp \overline{RS}$  and  $\overline{BS} \perp \overline{RS}$  (Thm. 9-1) so  $\overline{AR} \parallel \overline{BS}$ . Then  $\overline{ZA} \cong \overline{ZB} \cong \overline{ZD}$  (Subst.) 6.  $\overline{ZB} \cong \overline{ZD} \cong \overline{ZD$ 

Mixed Review Exercises, Page 337

1. 15 2.  $9\sqrt{2}$  3.  $2\sqrt{7}$