

Mixed Review Exercises, Page 440

1. 52 2. 146 3. 135 4. 18 5. $10\sqrt{2}$ cm 6. 15 cm, $15\sqrt{3}$ cm 7. 10 m 8. $\frac{15}{17}$

Written Exercises, Pages 443–444

1. 8; 256 3. $\frac{7\sqrt{2}}{2}; \frac{7}{2}$ 5. 3; $18\sqrt{3}$; $27\sqrt{3}$ 7. $\frac{4\sqrt{3}}{3}; \frac{2\sqrt{3}}{3}; 4\sqrt{3}$ 9. $2\sqrt{3}$; 24; $24\sqrt{3}$ 11. $4\sqrt{3}$; $24\sqrt{3}$;
 $72\sqrt{3}$ 13. $36\sqrt{3}$ 15. $216\sqrt{3}$ 17. a. $m\angle AOX = \frac{1}{2}m\angle AOB = \frac{1}{2}\left(\frac{360}{10}\right) = \frac{1}{2}(36) = 18$ b. 0.3090;
 $\frac{OX}{1}$, 0.9511 c. 6.18 d. 0.2939 e. 2.939 19. $a \approx 0.707$; $p \approx 5.656$; $A = 2$ 21. $p \approx 6.2112$; $A \approx 3$

Self-Test 1, Page 444

1. 81 2. 60 3. $40\sqrt{3}$ 4. $4\sqrt{3}$ cm² 5. $6\sqrt{13}$ cm² 6. 40 7. 39 8. $150\sqrt{3}$ 9. $5xy$
 10. 49

Written Exercises, Pages 448–450

1. 14π ; 49π 3. 5π ; $\frac{25}{4}\pi$ 5. 10; 100π 7. 5; 10π 9. a. 132; 1386 b. $44k$; $154k^2$
 11. ≈ 57 in.; ≈ 254 in.² 13. 24 oz 15. 984 ft² 17. 15-in. pizza 19. Area I = $\frac{a^2\pi}{8}$,
 Area II = $\frac{b^2\pi}{8}$, Area III = $\frac{c^2\pi}{8}$. Since $a^2 + b^2 = c^2$, Area I + Area II = Area III. 21. a. 198,000 cm (or
 1.98 km) b. 10,000 23. a. π ; 3π ; 5π ; 7π b. $(2n + 1)\pi$ 25. 3π ; 3π ; 3π 27. 32π 29. 1:2
 31. $0.14r^2$ 33. a. r b. $A = \pi r^2$ 35. Radius is hypot. of rt. \triangle in which radii of $\odot O$ and $\odot P$ are legs.

Algebra Review, Page 451

1. $\frac{4}{3}\pi$ 3. 32π 5. $5\pi\sqrt{2}$ 7. 12π

Written Exercises, Pages 453–455

1. 2π ; 12π 3. 2π ; 3π 5. $\frac{3}{2}\pi$; $\frac{9}{8}\pi$ 7. π ; $\frac{9}{4}\pi$ 9. $3\pi\sqrt{2}$; 15π 11. 6 13. $4\pi - 8$
 15. $12\pi + 8$ 17. $\frac{4\pi + 6\sqrt{3}}{3}$ 19. $(100\pi - 192)$ cm² 21. a. 49; 98 b. 52 cm² 23. 1343 m²
 25. $(24\pi - 18\sqrt{3})$ cm² 27. b. $72\pi - 108\sqrt{3}$ 29. $\frac{48\sqrt{3} - 22\pi}{3}$; trapezoid; 60

Written Exercises, Pages 458–460

1. 1:4; 1:16 3. r ; $2s$; r^2 ; $4s^2$ 5. 3:13; 9:169 7. 3:8; 3:8 9. 1:25,000,000,000,000
 11. 1:2; 1:4 13. $\triangle ABE \sim \triangle DCE$; 36:25; $6\frac{2}{3}$ 15. 125 cm² 17. a. 9:7 b. 5:4
 19. a. 3:4 b. 3:7 21. Answers may vary. $\triangle ABC \sim \triangle CDA$, 1:1; $\triangle ABG \sim \triangle CEG$, 9:25;
 $\triangle ABF \sim \triangle DEF$, 9:4; $\triangle AGF \sim \triangle CGB$, 9:25; $\triangle EFD \sim \triangle EBC$, 4:25; $\triangle ABF \sim \triangle CEB$, 9:25
 23. a. 1:9 b. 1:4 c. 1:8 25. a. 16:81 b. 4:9 c. 4:9 d. 1:1 e. 16:169 27. 9:40
 29. 4:5
 31. Each of the small \triangle s has area = $\frac{1}{6}$ · area of the orig. \triangle .

Written Exercises, Pages 463–464

1. $\frac{1}{4}$ 3. $\frac{1}{4}$ 5. a. $\frac{1}{25}$ b. 3 7. $\frac{\pi}{200} \approx 0.016$ 9. 0.04 11. $\frac{2}{3}$ 13. 0.125 m² 15. b. 7.5 mm
 17. a. $\frac{13}{50}$ b. $\frac{1}{10}$