1. **Answer:** $4 + 2\sqrt{3}$

2. **Answer:** 1200π

3. **Answer:** $\frac{11\pi}{6}$

4. **Answer:** $\frac{3}{16}$

5. **Answer:** $64\sqrt{3}$

6. **Answer:** 12

7. **Answer:** 2

8. **Answer:** $\frac{3+3\sqrt{129}}{16}$

9. **Answer:** $\frac{7+3\sqrt{5}}{16}$

10. **Answer:** $\frac{1365}{8}$