



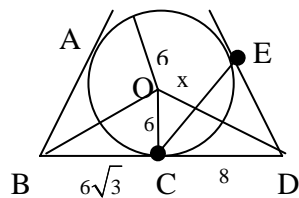
1. C
2. D
3. B
4. A
5. B
6. D
7. B
8. C
9. A
10. D
11. D
12. D
13. B
14. B
15. A
16. D
17. D
18. E
19. B
20. C
21. A
22. C
23. A
24. B
25. C
26. C
27. D
28. A
29. B
30. A



- $180 - 165 = 15$. $360/15 = 24$ sides
- $4:8 = 1:2$ $(1:2)^2 = (1:4)$ $\frac{1}{4} = \frac{196}{x}$ $x = 4(196) = 784$
- $I = 10(360) = 3600$; $\frac{3600}{180} = 20$ $20 + 2 = 22$
- $180(6) = 1080$; $1080 - 995 = 85$ degrees
- $\frac{(20-3)20}{2} = 170$



- $3-4-5$ rt triangle times 4 therefore $r = 20$.
- $7 + 10 = 17$
- $2x = 2y + 40 \Rightarrow x = y + 20$ also $x = y + m\angle E$. $\therefore y + 20 = y + m\angle E$ and $20 = m\angle E$.
- Let $2x = \text{side}$. $51\sqrt{3} = (1/2)(x\sqrt{3})(12x)$; $51 = 6x^2$; $17/2 = x^2$; $x = \sqrt{17/2}$; $x\sqrt{3} = \sqrt{51/2} = \sqrt{102}/2$
- $\text{span} = \text{side}\sqrt{3} = 4\sqrt{3}$
- $x + 4 = \text{diameter}$; 10 is the altitude of the right triangle.
 $10^2 = 4x$; $25 = x$; $\text{diameter} = 29$; $\text{radius} = 14.5$
- \overline{DC} contains center. $10(2r - 10) = (300)(300)$; $r = 4505$
- $(1/2)bh = \sqrt{s(s-a)(s-b)(s-c)}$; $(1/2)(7)h = \sqrt{9(4)(3)(2)}$; $h = (12\sqrt{6}/7)$
- $A = \pi r^2 - 6(s^2\sqrt{3}/4)$; $s = r = 8$; $A = 64\pi - 96\sqrt{3}$
- 10, 6, and 8 are sides of a right triangle; and $r = (a + b - c)/2$; so $r = (6 + 8 - 10)/2$, and $r = 2$.

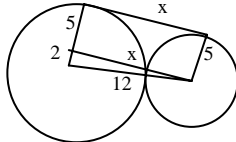


- $OD = 10$; $6^2 = 10(x)$; $x = 36/10 = 18/5$
- Segment center to P is hypotenuse of a 30-60-90 triangle. Long leg is 5 so distance = $10\sqrt{3}/3$
- $m\angle ABE + m\angle CDE = 180$; $m\angle BOD = 180 - 1/2(m\angle ABE + m\angle CDE) = 180 - 90 = 90$
- Since C is equidistant from A, B, & D, it is the midpoint of hypotenuse. Sum of acute $\angle s = 90$



20. $r = s\sqrt{4+2\sqrt{2}}/2$; $A = \pi\left(8\sqrt{4+2\sqrt{2}}/2\right)^2 = 64\pi + 32\pi\sqrt{2}$

21. The points form an isosceles right triangle; (0, 6) and (6, 0) are the endpoints of a diameter. $r = 3\sqrt{2}$,
so $A = \pi(3\sqrt{2})^2 = 18\pi$



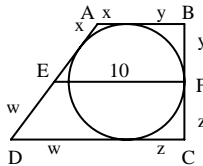
22. $x^2 = 144 - 4 = 140$; $x = 2\sqrt{35}$

23. \perp bisector of (0, 2) & (-2, 0) is $y = -x$. \perp bisector of (0, 2) & (2, 2) is $x = 1$.

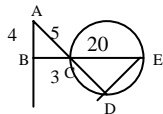
The point of intersection of those two lines is (1, -1) = center. distance from center to any vertex = $r = \sqrt{10}$

24. $100 = (1/12)\pi r^2$; $r^2 = 1200/\pi$. $a, r, (s/2)$ form 30-60-90 Δ ; $a = r/2$, $(s/2) = r\sqrt{3}/2$; $s = r\sqrt{3}$.
 $A = s^2\sqrt{3}/4 = 3(1200/\pi)\sqrt{3}/4 = 900\sqrt{3}/\pi$

25. The measures of arcs $IJ = BI = 20^\circ$; m arc $BD = 120^\circ$; m arc $AB = m \angle AOB = 60^\circ$; $m \angle KGO = 70^\circ$,
 $m \angle FKO = 50^\circ$



26. $AB + DC = 20$; $x + y + w + z = 20$; $P = 2x + 2y + 2w + 2z = 40$



27. Similar right triangles; $CD = 3(4) = 12$

28. $d = 10$; $r = 5$, $A = \pi r^2 = 25\pi$

29. $2r = \text{diagonal small sq.} = \text{side large sq.}$ Side small sq = $r\sqrt{2}$. $(r\sqrt{2} : 2r)^2 = 1 : 2$

30. $A = 6(5\sqrt{3})^2 \sqrt{3}/4 = 3(75\sqrt{3})/2 = 225\sqrt{3}/2$