8 SOLUTIONS: GEOMETRY INDIVIDUAL

1. $\frac{1}{2}(8)(15) = \frac{1}{2}(n)(20)$

$n = 6$ [B]

2. $\frac{1}{2}(6)(4) = 12$ [B]

3. $\frac{2}{5}(10\pi) = 4\pi$ [C]

4. $d = \frac{n(n-3)}{2}$

$14 = \frac{n(n-3)}{2}$

$0 = n^2 - 3n - 28 = (n-7)(n+4)$ $n = 7$ [B]

5. $pg = 9$ $p^2 + g^2 = 8$ $p^2 + 2pg + g^2 = 26$ [D]

6. $4x + 15 = 6x - 2$

$x = 17/2$ $4x + 15 = 49$ $\angle C = 180 - 49 = 131$ [E]

7. $2x + 6x + x = 180$

$x = 20$ $2x = 40°$ [B]

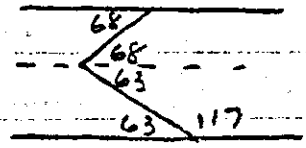
8. $1 + 1 < 3$ [B]

9. $(180 - x) - (90 - x) = 90$ [A]

10. $4x + x = 130$

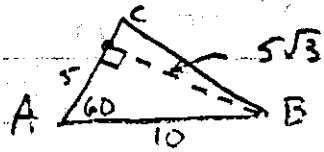
$x = 26$ $4x = 104$ [D]

11. $AB = \sqrt{24} = 2\sqrt{6}$ $\Delta ADC = 6$ + $\Delta ABC = \sqrt{6}$ $6 + \sqrt{6}$ [B]

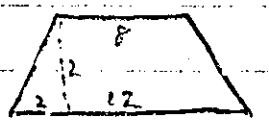
12. 

$z = 131°$ [D]

13. $\frac{16}{12} = \frac{x}{9}$ $x = 12$ [C]

14. 

[C]

15. 

$a = 2$ [A]

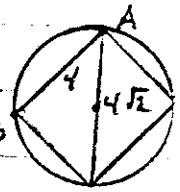
16. $x + y + z - a - b - c = (x + y + z) - (a + b + c) = 360 - 180 = 180$ [B]

17. Edge = 3 $CD = 3$ [A]

18. All rectangles are parallelograms ≡ If rectangle Then parallelogram ≡ If not parallelogram Then not rectangle **C**

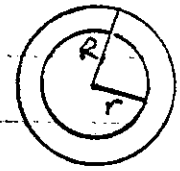
19. $A_C - A_{C'} = \pi r^2 - \pi\left(\frac{1}{2}r\right)^2 = \frac{3}{4}\pi r^2$ **E**

20. $\frac{CD}{AB} = \frac{3\sqrt{2}}{4\sqrt{2}} = 3/4$ **C**

21. 

$4\sqrt{2}$ **C**

22. Largest side opposite largest angle → BD longest in $\triangle ADB$ but not for $\triangle BDC$ $\overline{CD}$ **D**

23. 

$A_C - A_{C'} = \pi R^2 - \pi r^2 = \pi(2r)^2 - \pi r^2 = 3\pi r^2$

$3\pi r^2 / \pi r^2 = 3/1$ **A**

24. $l^2 + w^2 = 48$ $lw = 8$ $l^2 + 2lw + w^2 = 64$ $(l+w)^2 = 64$

$l + w = 8$ $2(l+w) = 16$ **A**

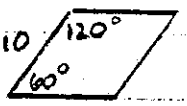
25. $AB + CD = AD + BC$ $4 + 3 = 5 + x$ $x = 2$ **B**

26. $x = \frac{180(n-2)}{n}$ $xn = 180n - 360$ $360 = 180n - xn$

$360 = n(180 - x)$ $n = \frac{360}{180 - x}$ **C**

27. $A_{Rectangle} = bc$ $A_{Triangle} = \frac{1}{2}(a-c)^2$ $bc + \frac{1}{2}(a-c)^2$ **D**

28. $A_{circle} = \pi\left(\frac{1}{2}n\right)^2 = \frac{1}{4}\pi n^2$ $A_{square} = n^2$ $\frac{\frac{1}{4}\pi n^2}{n^2} = \frac{1}{4}\pi$ **A**

29. 

$A = 2\left(\frac{n^2\sqrt{3}}{4}\right) = 50\sqrt{3}$ **C**

30. $0^2 + (-9)^2 = 81$ $(-2)^2 + (9)^2 = 85$ $(-7)^2 + (-6)^2 = 78$ $(8)^2 + (5)^2 = 89$

$(10)^2 + 0^2 = 100$ **E**