The following were changed at the resolution center at the convention: 23 E

1. (B) 4w + 12 = 80; width = 17 and length = 23; A = 391

2. (D) 2x 4x 5x 4x =20 so x = 5; 11x = 55

 M A 20 T H

3. (C) Air Force and Navy

4. (A) r2 = (r-18)2 + 242

 r r2 = r2 -36r +324 + 576

 r-18 36r = 900

 r = 25

 24

5. (C) 19 = 28 ; x = 10.4; shadow = 22 + 10.4 = 32.4

 22 x+22

 28 19

 x 22

6. (C) x = one base angle: 2x = 4(180 - 2x); x = 72

7. (B) V = ; 20560

8. (D) 49π - 9π = 40π

9. (C) 5(921.6) = 4608

10. (A) (7-r) + (5-r) = 9

 C r = 1.5

 5-r

 7-r 5-r

 r

 B 7-r r

 A

11. (D) vertical angles: 5x - 4y = -8

 supp angles: x = 9y - 182

 substituting: 5(9y - 182) - 4y = -8; y = 22

vertical angles: 9r = 5y - 2

r = 12

12. (C) p→q

 q→p

 ~q→~p

 p→q

 q→p

13. (E) II only

14. (C) diagonal of cube = = 6

 radius of sphere =

 Vsphere = = 108π

 Vcube = 63 = 216

 Vsphere outside cube = 108π - 216 = 108(π - 2)

15. (D) = =

16. (C) ; x = 6

 y2  = 62 + ; y = 4

 z 2 y z2 = 22 + ; z = 4

 P = x + y + z = 12 + 4 = 4(3 + )

 2 x

17. (B) SAcone = πr*l* = π(5)(13) = 65π

18. (B)

  **a** xy x + y = 360 - 113 - 94 = 153

 **b** a + b = 360 - 75 - 68 - 153 = 64

 113° 94°

 75°

 68°

19. (C) ½ (90-x) + (180-x) = 165

 x = 40, measure of angle

 50, measure of complement

20. (B) =

21. (C) A

 x+2**(6)** 2x+1**(9)** x2 - 4x = 0

 x = 4

B E P = 9 + 3 + 15 + 2 + 6 = 35

 x-2**(2)**  x-1**(3)**

 C 19-x **(15)** D

22. (A) slopeRS = ; ⊥slope =;

 ; c =

23. (C) 6e2 = 54; e = 3

 V = e3; V = 33 = 27cm3

24. (D) LA = 2πrh; 968 = 2h; h= 44

 total length = 36(44) = 1584; 1580

25. (B) 1 A2 trapezoids = 2= 4

 45° Arectangle = 1(3) = 3

 1 1

 Aequiangular octagon = 3 + 4 = 7

 1

26. (B) B (sinB)2 + (cosS)2 = = 1

 24 **26**

 U 10 S

27. (A) (-3,-1) and 2x + 4y = 9

 = = =

28. (A) Aright triangle == 96; Atrapezoid = = 75; Apentagon = 96 + 75

A 16 B

 **5**

 12 **20 10** 10

 E **5**  C

 10 10

 D

29.(C) x + 4x = 180

 x = 36, measure exterior angle

 360 ÷ 36 = 10, number of sides

 = 35, number of diagonals

30. (B) 25(22π) = 550π, total distance of front wheel

 12π, circumference of one back wheel

 = , number of revolutions of one back wheel