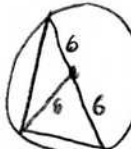


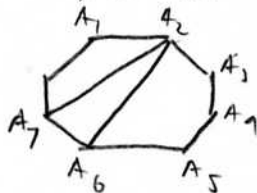
Geometry - Willie Wonka

1.  Property of right triangle's median.
 $\pi r^2 = 36\pi$ **[D]**

2. **[A]**


3. Sum of exterior angles $= 360^\circ$

$$\frac{360^\circ}{45^\circ} = 8, \text{ so an octagon}$$

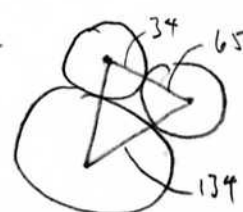


Scalene **[C]**

$$4. \left(\frac{4}{1}\right)^2 = \frac{[ABC]}{[XYZ]} = \frac{16}{1} \quad \mathbf{[B]}$$

5.  $5 \times 8 \approx 7$ something
 so 8 is the next bigger number.

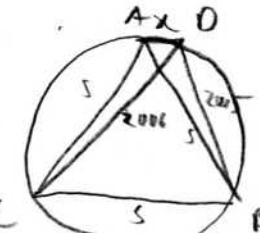
[B]

6.  $(34)^2 + 65(2) + 2(134) = 466$

[E]

7. $8(3) + (5)6 = 6x$
 $24 + 30 = 6x$
 $x = 9$

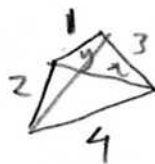
[C]

8.  let s be the sidelength

$$xs + 2006s = 2006s$$

$$x = 1 \quad \mathbf{[A]}$$

9. Property of inscribed quad.:
 sum of opposite sides are equal



$$4 + 2(3) = xy$$

$$\frac{10}{x} = y \quad \mathbf{[A]}$$

10. $11^2 + 60^2 = 61^2$ so right triangle.

$$\frac{60(11)}{2} = 330 \quad \mathbf{[D]}$$

11. We only care about num's rotation about its own axis.

$$D = s(t)$$

$$= 200\pi(3) = 600\pi$$

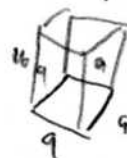
which will be where she is originally

$$\text{so } 200\pi + 50 = 2050\pi \quad \mathbf{[C]}$$

12.



$p = 36$, to maximize a rectangle, the shape is a square. So



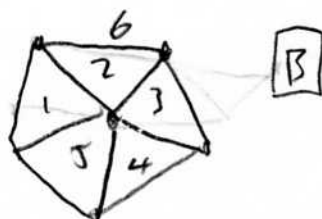
$$81 - 16 = \mathbf{[A]}$$

13. $s^3 = 27$ $s = 3$

so area of one side

u $s^2 = 9$ **B**

14.



15. $y = x^2 + 18x + 30$

$y = 2\sqrt{y+15}$

$y^2 = 4y + 60$

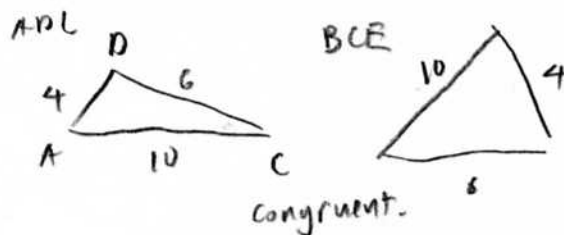
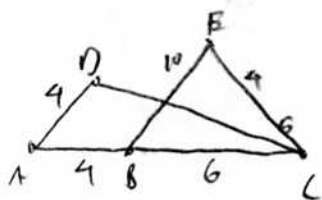
$(y-10)(y+6) = 0$

↑
can't be negative
due to $-6 = 2\sqrt{y}$

$x^2 + 18x + 30 - 10 = 0$

$-\frac{b}{a} = (-18)$ **E**

16.



so **C**

17. 1, 2, 3, 5, 8, 13, 21, 34, **55**

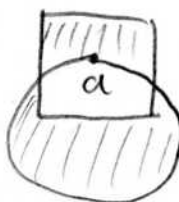
E

18. 1, 2, 4, 8, 16, 32, 64, 128, 256, 512.

sum (or use equation for geometric seq)

D

19. Find shaded.



$\geq 9\pi$ so shaded area
 $= 9\pi - a$



$= 4$ so shaded area
 $= 4 - a$

$(9\pi - a) - (4 - a)$

$9\pi - 4$ **D**

20. You can work it out,
or see that it is the
formula for area of a
triangle.

C

21. **B**



22. $\frac{4 - (-22)}{4 - 19} = \frac{26}{-15}$ **P**

23.

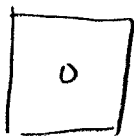


so 2 sets

C

24. ☐ C

25.

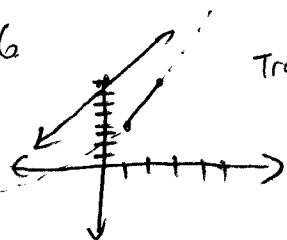


Area of circle
Total area

$$\frac{\pi}{10000}$$

☐ B

26

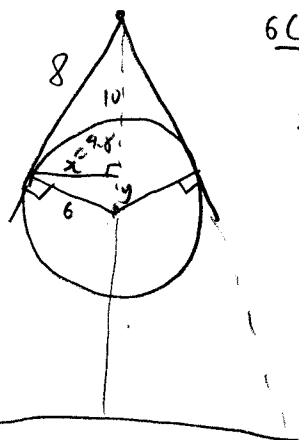


Trapezoid $\frac{(b_1 + b_2)}{2} h$

☐ A

b_2 can be infinite.

27.



$$\frac{6(x)}{2} = \frac{10(y)}{2}$$

$$x = 4.8$$

$$\frac{6}{10} = \frac{y}{6}$$

$$3.6 = y$$

Use similar triangle

$$\frac{10-y}{4.8} = \frac{32}{x}$$

$$\frac{6.4}{4.8} = \frac{32}{x}$$

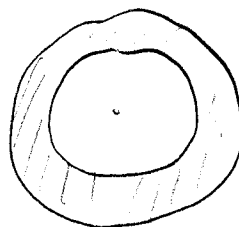
$$x = 24$$

☐ B

28. 2, 3, 4 are the only numbers

☐ B

29.



$$= 25\pi - 16\pi$$

$$= 9\pi$$

☐ A

30.

☐ A