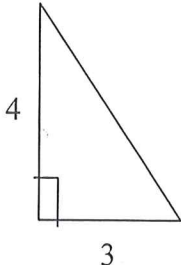
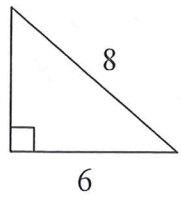
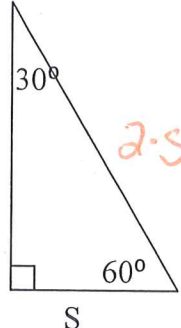
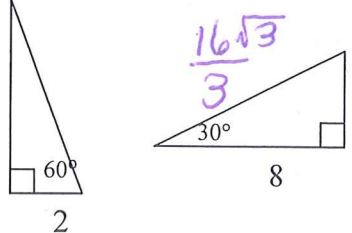



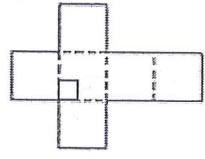


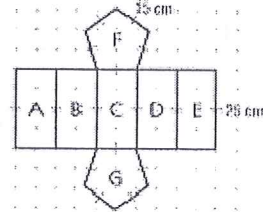
Review: For questions 1-3 find all missing sides of triangles and fill in the blanks.

<p>1. Pythagorean Theorem:</p> $a^2 + b^2 = c^2$ <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>3 4</p> </div> <div style="text-align: center;">  <p>6 8</p> </div> </div> <p> $3^2 + 4^2 = c^2$ $9 + 16 = c^2$ $25 = c^2$ $5 = c$ </p> <p> $a^2 + b^2 = 8^2$ $a^2 + 36 = 64$ $a^2 = 28$ $a = 2\sqrt{7}$ </p>	<p>2. 30-60-90 Special Right Triangles:</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>30° 60° S 8 5√3</p> </div> <div style="text-align: center;">  <p>30° 8 16√3 8√3</p> </div> </div>	<p>3. Areas of Polygons Formulas:</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>$A = \frac{1}{2} b \cdot h$</p> </div> <div style="text-align: center;">  <p>$A = L \cdot w$</p> </div> <div style="text-align: center;">  <p>$A = \frac{1}{2} P \cdot a$ (All sides and angles congruent)</p> </div> </div>
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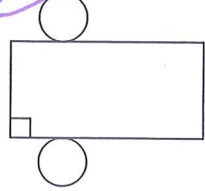
4. Identify the following nets. Be specific.

a. 

hexahedron
(cube)

b. 

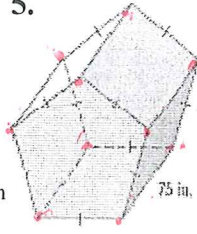
Pentagonal Prism

c. 

Cylinder

$\frac{8}{13} \cdot \frac{13}{3} = \frac{8 \cdot 13}{3}$

Identify the solid. Then write the appropriate formula and find the Lateral Area of each polyhedron.

5. 

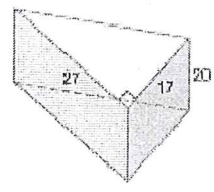
Name: Pentagonal Prism

Formula: $L = P \cdot h$

$P = 54 \cdot 5 = 270$ $h = 75$

$L = P \cdot h$
 $= 270 \cdot 75$

$L = 20,250 \text{ in}^2$

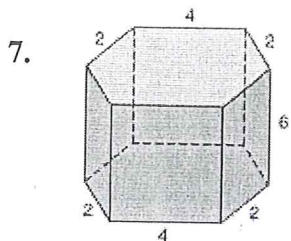
6. 

Name: Triangular Prism

Formula: $L = P \cdot h$

$a^2 + b^2 = c^2$ $P = 17 + 27 + 31.9$
 $27^2 + 17^2 = c^2$ $P = 75.9$
 $729 + 289 = c^2$ $L = P \cdot h$
 $1,018 = c^2$ $L = 75.9 \cdot 20$
 $c = 31.9$ $L = 1,518 \text{ units}^2$

For #5 above, how many: faces 2 bases 5 edges 15 vertices 10 ?



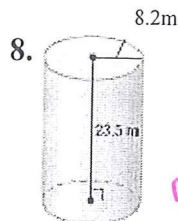
7. Name: Hexagonal Prism

Formula: $L = P \cdot h$

$P = 16$ $h = 6$

$L = P \cdot h$

$L = 48 \text{ units}^2$

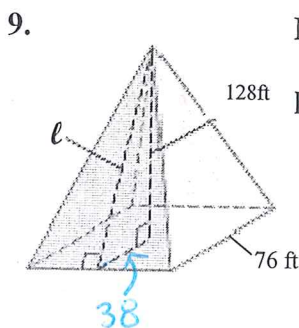


8. Name: Cylinder

Formula: $L = 2\pi r \cdot h$

$r = 8.2$
 $h = 23.5$

exact $L = 2 \cdot \pi \cdot 8.2 \cdot 23.5$
 $L = 385.4 \cdot \pi \text{ m}^2$
 $L = 1,210.8 \text{ m}^2$



9. Name: Pyramid

Formula: $L = \frac{1}{2} P \cdot l$

$c = l = 133.5$

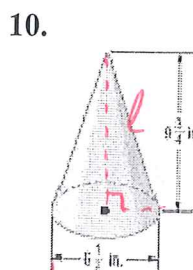
$P = 76 + 76 + 76 + 76$

$P = 304$

$L = \frac{1}{2} \cdot 304 \cdot 133.5$

$L = 20,292 \text{ Ft}^2$

$a^2 + b^2 = c^2$
 $38^2 + 128^2 = c^2$
 $1,444 + 16,384 = c^2$
 $\sqrt{17,828} = \sqrt{c^2}$



10. Name: Cone

Formula: $L = \pi r l$

$a^2 + b^2 = c^2$

$3.25^2 + 9.75^2 = c^2$

$10.56 + 95.1 = c^2$

$105.62 = c^2$

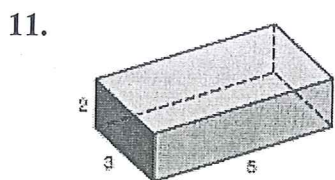
$10.3 = c$

$l = 10.3$

$L = \pi \cdot 3.25 \cdot 10.3$

exact: $L = 33.48\pi \approx 105.2 \text{ in}^2$

Identify the solid. Then write the appropriate formula and find the Surface Area of each polyhedron.



11. Name: Rectangular Prism

Formula: $T = L + 2B$

$T = 50 + 2(2 \cdot 3)$

$= 50 + 2(6)$

$= 50 + 12$

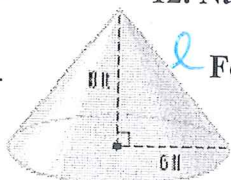
$= 62 \text{ units}^2$

$L = P \cdot h$

$P = 2 + 2 + 3 + 3$

$P = 10$ $h = 5$

$L = 10 \cdot 5 = 50$



12. Name: Cone

Formula: $T = \pi r l + \pi r^2$

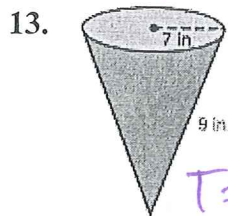
$l = 10$ $r = 6$

$a^2 + b^2 = l^2$ $T = \pi \cdot 6 \cdot 10 + \pi \cdot 6^2$

$6^2 + 8^2 = l^2$ $T = 60\pi + 36\pi$

$36 + 64 = l^2$ Exact = $96\pi \approx 301.6 \text{ ft}^2$

$\sqrt{100} = \sqrt{l^2}$
 $10 = l$



13. Name: Cone

Formula: $T = \pi \cdot r \cdot l + \pi r^2$

$T = \pi \cdot 7 \cdot 9 + \pi \cdot 7^2$

$r = 7$ $T = \pi \cdot 63 + \pi \cdot 49$

$l = 9$ $T = 63\pi + 49\pi$

$T = 112\pi$ exact

$T \approx 351.9 \text{ in}^2$



14. Name: Cylinder

Formula: $T = 2\pi r h + 2\pi r^2$

$T = 2\pi \cdot 14 \cdot 14 + 2\pi \cdot 14^2$

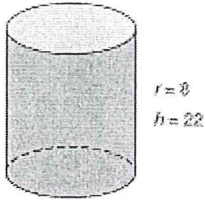
$r = 14$ $T = 2 \cdot \pi \cdot 196 + 2\pi \cdot 196$

$h = 14$ $T = 392\pi + 392\pi$

$T = 784\pi$ exact

$T = 2,463 \text{ mm}^2$

15.



Name: Cylinder

Formula: $T = 2\pi r h + 2\pi r^2$

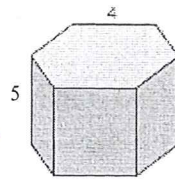
$$T = 2\pi \cdot 8 \cdot 22 + 2\pi \cdot 8^2$$

$$T = 352\pi + 128\pi$$

$$T = 480\pi \text{ exact}$$

$$\approx 1,507.96 \text{ units}^2$$

16. Name: hexagonal Pentagonal Prism



Formula: $T = L + 2B$

$$L = P \cdot h$$

$$P = 4 + 4 + 4 + 4 + 4$$

$$P = 20$$

$$L = 20 \cdot 5$$

$$L = 100$$

Area of Base
 $A = \frac{1}{2} P a$
 $a = 2\sqrt{3}$
 $A = \frac{1}{2} \cdot 20 \cdot 2\sqrt{3}$
 $A = 20\sqrt{3}$
 $A \approx 34.64$

$$T = L + 2B$$

$$T = 100 + 2(34.64)$$

$$T = 100 + 69.28 \approx 169.28 \text{ units}^2$$

17.



Name: Pyramid

Formula: $T = \frac{1}{2} P \cdot l + B$



$$P = 4\sqrt{3} \cdot 4$$

$$P = 16\sqrt{3}$$

$$l = 6$$

$$B = 4\sqrt{3} \cdot 4\sqrt{3}$$

$$B = 16 \cdot 3$$

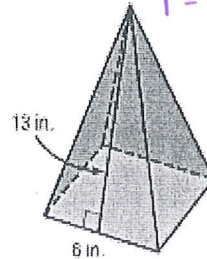
$$B = 48$$

$$T = \frac{1}{2} P \cdot l + B$$

$$T = \frac{1}{2} (16\sqrt{3}) \cdot 6 + 48$$

$$T = 48\sqrt{3} + 48$$

$$T \approx 131.14 \text{ cm}^2$$



18. Name: Pyramid

Formula: $T = \frac{1}{2} P \cdot l + B$

$$P = 6 \cdot 4$$

$$P = 24$$

$$l = 13$$

$$B = 6 \cdot 6$$

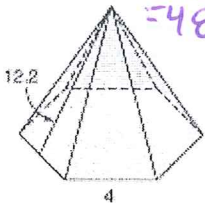
$$B = 36$$

$$T = \frac{1}{2} (24) \cdot 13 + 36$$

$$T = 156 + 36$$

$$T = 192 \text{ in}^2$$

19.



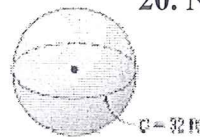
Name: Hexagonal Pyramid

Formula: $T = \frac{1}{2} P \cdot l + B$

$$T = \frac{1}{2} (24) \cdot 12.2 + 41.57$$

$$T = 146.4 + 41.57$$

$$T = 187.97$$



20. Name: Sphere

Formula: $T = 4\pi r^2$

$$C = 2\pi r$$

$$32 = \frac{2\pi r}{2\pi}$$

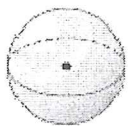
$$\frac{16}{\pi} = r$$

$$T = 4\pi \cdot \left(\frac{16}{\pi}\right)^2$$

$$T = \frac{1,024}{\pi}$$

$$T \approx 325.95 \text{ ft}^2$$

21.



Area Great Circle = 123 in²

Name: Sphere

Formula: $T = 4\pi r^2$

$$T = 4\pi r^2$$

$$T = 4 \cdot \pi \cdot 123$$

$$T = 492\pi$$

22.



Name: Sphere

Formula: $T = 4\pi r^2$

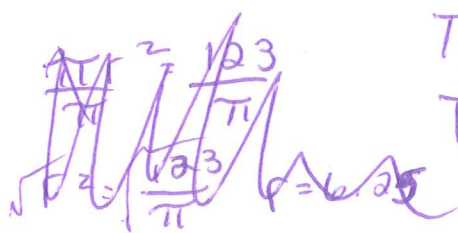
$$T = 4 \cdot \pi \cdot 15.5^2$$

$$T = 4\pi \cdot 240.25$$

$$T = 961\pi$$

$$T \approx 3,019.5 \cdot \frac{1}{2} \approx 1,509.6$$

Hemisphere
1/2 Sphere



23. The diameter of a great circle of a sphere is 9cm. What is the surface area of the sphere?
Show work!

$r = 4.5$

$T = 4\pi r^2$

$T = 4 \cdot \pi \cdot (4.5)^2$

$T = 4 \cdot \pi \cdot 20.25$

$T = 81\pi$

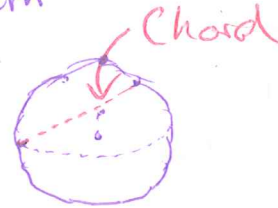
$\approx 254.5 \text{ cm}^2$

Describe or sketch the following terms:

1. axis-



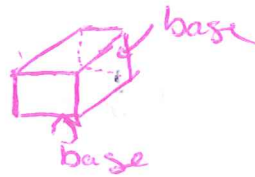
11. chord-



2. altitude (height)-



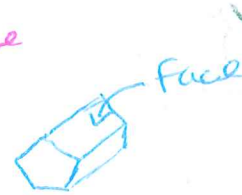
12. base(s)-



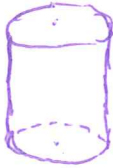
3. prism-



13. faces-



4. cylinder-



14. lateral area-



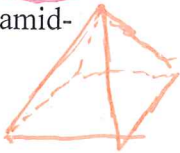
5. cone-



15. surface area-



6. pyramid-



16. formula: area of a triangle-

$A = \frac{1}{2} \cdot b \cdot h$

7. sphere-



17. formula: area of a regular polygon-

$A = \frac{1}{2} P \cdot a$

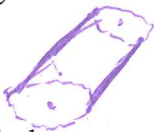
8. hemisphere-



18. formula: surface area of a hemisphere-

$T = \frac{1}{2} \cdot 4\pi r^2$

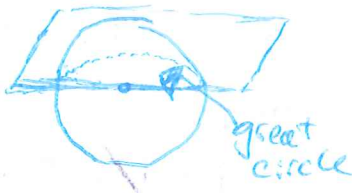
9. oblique-



19. formula: area of a rectangle-

$A = B \cdot h$

10. great circle-



20. right solid-

