

AK

Name: _____

Period: _____

12.1 Practice Problems
Describe the cross section.

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Describe the solid formed when the polygon is rotated around the given axis.

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Find the surface area of the cylinder in terms of pi.

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Find the surface area of the prism.

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$$2\left(\frac{3(4)}{2}\right) + 4(5) + 4(3) + 4(4) = 2(6) + 20 + 12 + 16 = 60 \text{ cm}^2$$

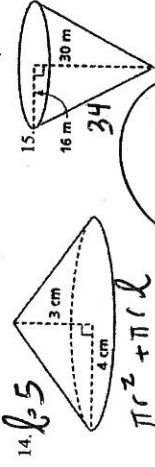
$$2(25 \cdot 20) + 2(25 \cdot 15) + 2(20 \cdot 15) = 1000 + 750 + 600 = 1800 \text{ m}^2$$

$$2(2 \cdot 3) + 2(8 \cdot 3) + 2(2 \cdot 8) = 12 + 48 + 32 = 92 \text{ ft}^2$$

$$16\pi + \pi 16(34)$$

$$800\pi \text{ m}^2$$

Find the surface area of each cone in terms of π .



$$\pi r^2 + \pi r l$$

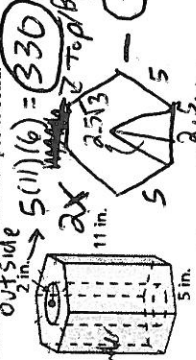
$$16\pi + 20\pi = 36\pi \text{ cm}^2$$



$$144\pi + \pi 12(17)$$

$$300\pi \text{ in}^2$$

Find the surface area of the composite solid.



$$5(11)(6) = 330$$

inside
LA of cylinder
dth
4 in
4π

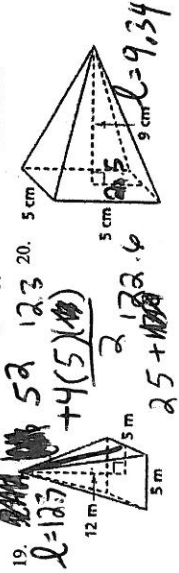
$$2((2.5\sqrt{3})(5)(2)(6) = 4\pi)$$

$$= 75\sqrt{3} - 8\pi$$

$$\text{Final SA} = 330 + 75\sqrt{3} - 8\pi + 44\pi$$

$$= 330 + 75\sqrt{3} + 36\pi$$

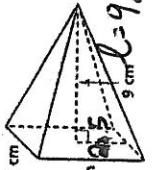
Find the surface area of each regular pyramid to the nearest tenth.



$$5^2 12.3$$

$$+ 4(5)(12.3)$$

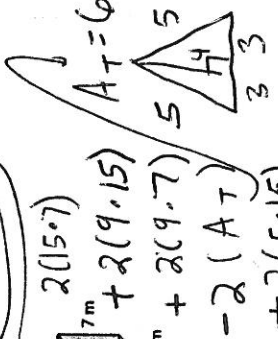
$$25 + 246 = 271$$



$$9^2 12.3$$

$$+ 4(9)(12.3)$$

$$81 + 442.8 = 523.8$$



$$2(15 \cdot 7)$$

$$+ 2(9 \cdot 15)$$

$$+ 2(9 \cdot 7)$$

$$- 2(AT)$$

$$+ 2(5 \cdot 15)$$

$$+ 645$$

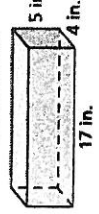
$$834 \text{ m}^2$$

$$25 + 5(9.34)$$

$$48.4 \text{ cm}^2$$

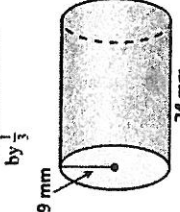
Describe how the change in dimensions changes the surface area of each figure.

21. doubling all the linear dimensions



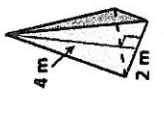
SA goes up by $2^3 = 8$
a factor of 8

22. multiplying all the linear dimensions by $\frac{1}{3}$



SA goes down by a factor of $(\frac{1}{3})^2 = \frac{1}{9}$

23. tripling all the linear dimensions



SA goes up by a factor of $3^2 = 9$ (3)