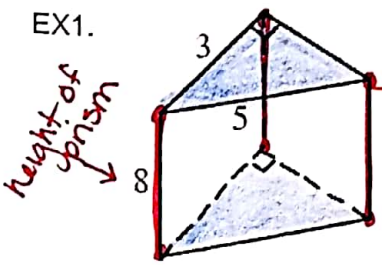
February 19

rectangle: $A = bh$
triangle: $A = \frac{1}{2}bh$
circle: $A = \pi r^2$ $C = 2\pi r$

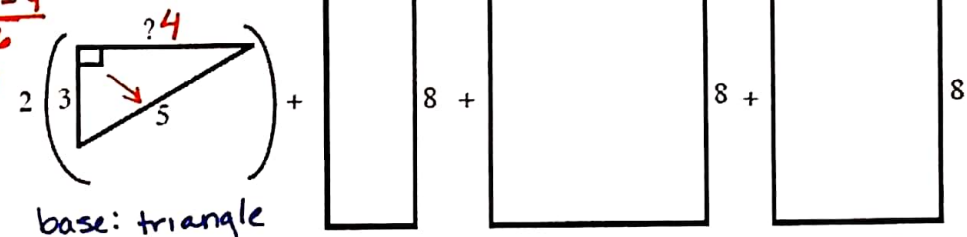
GUIDED NOTES: Surface Area

Surface Area – the sum of the area of all the shapes that assemble to make a 3D figure

EX1.



$a^2 + 3^2 = 5^2$
$a^2 + 9 = 25$
$-9 \quad -9$
$\sqrt{a^2} = \sqrt{16}$
$a = 4$



base: triangle
$A = \frac{1}{2} \cdot 3 \cdot 4$
$A = 6$

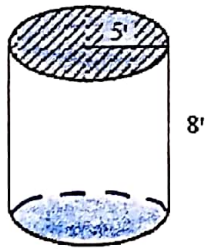
$A = 3 \cdot 8$
$A = 24$

$A = 5 \cdot 8$
$A = 40$

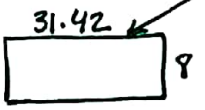
$A = 4 \cdot 8$
$A = 32$

$SA = 2 \cdot 6 + 24 + 40 + 32 = \boxed{108 \text{ units}^2}$

EX2.



base: circle
$A = \pi \cdot 5^2$
$A = 78.54$

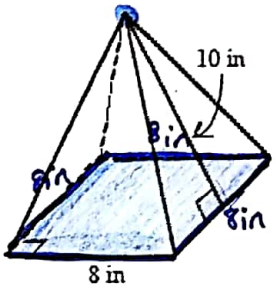


circumference
$C = 2\pi \cdot 5$
$C = 31.42$

rectangle:
$A = 31.42 \cdot 8$
$A = 251.33$

$SA = 2 \cdot 78.54 + 251.33 = \boxed{408.41 \text{ ft}^2}$

EX3.



base: square
$A = 8 \cdot 8$
$A = 64$

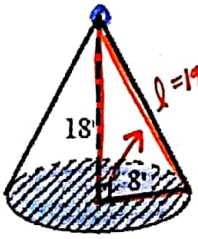
4 triangles:
$A = \frac{1}{2} \cdot 8 \cdot 10$
$A = 40$

*sides of base are the same, so triangles are all the same.

$SA = 64 + 4 \cdot 40 = \boxed{224 \text{ in}^2}$

EX4.

$18^2 + 8^2 = c^2$
$\sqrt{388} = \sqrt{c^2}$
$19.70 = c$

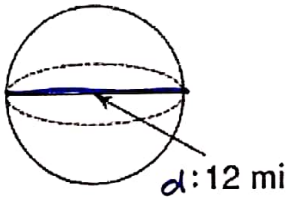


base: circle
$A = \pi \cdot 8^2$
$A = 201.06$

no triangles in a cone, has a lateral surface area:
$L.S.A. = \pi r l$
$L.S.A. = \pi \cdot 8 \cdot 19.70$
$L.S.A. = 495.06$

$SA = 201.06 + 495.06 = \boxed{696.12 \text{ ft}^2}$

EX5.



d: 12 mi
r: 6

sphere:
$SA = 4\pi r^2$

$SA = 4 \cdot \pi \cdot 6^2 = \boxed{452.39 \text{ mi}^2}$

Scanned by CamScanner