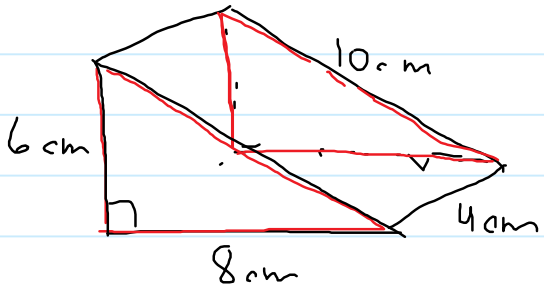
1.4 Surface Areas of Other Composite Objects

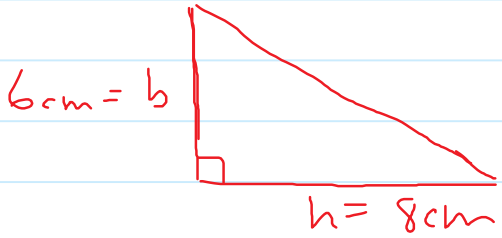
February 18, 2015 10:00 AM

To find the SA of a right triangular prism, add the areas of its 5 faces



* there are 2 triangular faces that are congruent

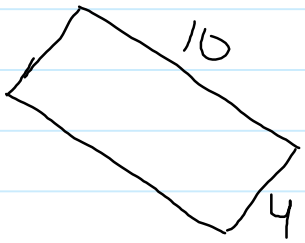
$SA = \left(\frac{1}{2}bh\right)2$



$= \left(\frac{1}{2} \cdot 8\ 6\right)2$

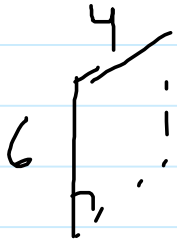
$= (1 \cdot 8 \cdot 6)$

$= 48\ cm^2$



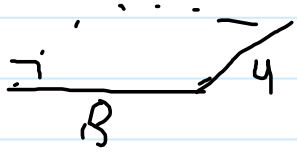
$= 10 \times 4$

$= 40\ cm^2$



$= 6 \times 4$

$= 24 cm^2$



$= 8 \times 4$

$= 32\ cm^2$

$= 144\ cm^2$

$SA = bh + 2ls + lb$

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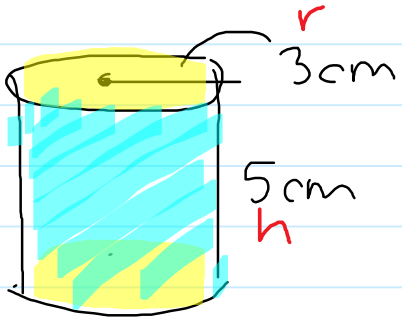
Ex #1

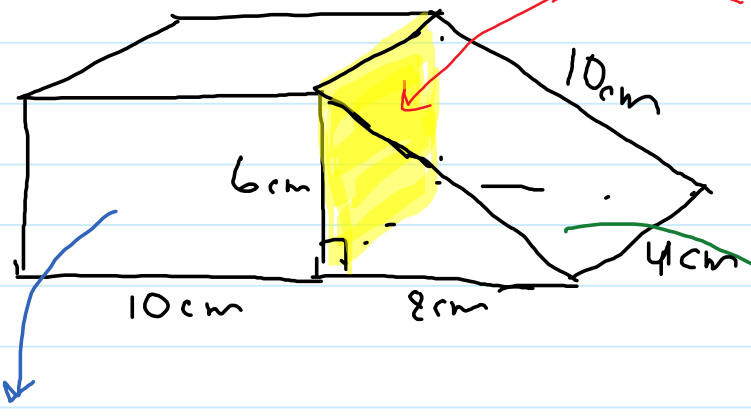
Calculate SA of a right cylinder



$$SA = 2\pi r^2 + 2\pi rh$$
$$= 2\pi 3^2 + 2\pi 35$$
$$= 56.55 + 94.25$$
$$= 150.80\ cm^2$$

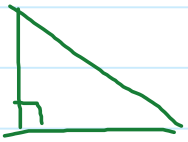
Ex #2

find the SA of this composite object



overlap
$= 2(4 \times 6)$
$= 2(24)$
$= 48\ cm^2$

$SA = 2(lw + lh + wh)$
$= 2(10 \cdot 4 + 10 \cdot 6 + 6 \cdot 4)$
$= 2(40 + 60 + 24)$
$= 2(124)$



$2\left(\frac{1}{2}bh\right)$
$= 2\left(\frac{1}{2} \cdot 6 \cdot 8\right)$
$= 48$

10

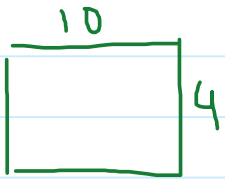
$= 2(124)$

$= 248\ cm^2$

$+ 144\ cm^2$

$- 48\ cm^2$

$344\ cm^2$



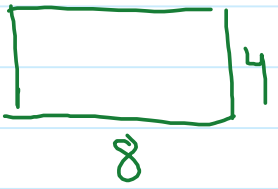
$= 48$

$= 10 \times 4$

$= 40$

$= 6 \times 4$

$= 24$



$= 8 \times 4$

$= 32$

$144\ cm^2$

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