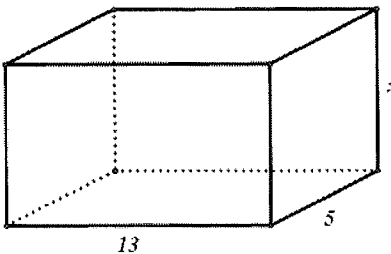
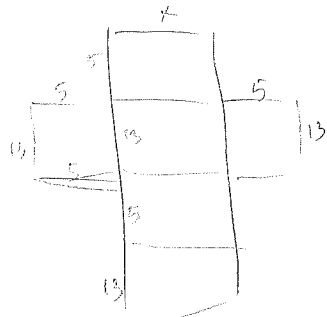
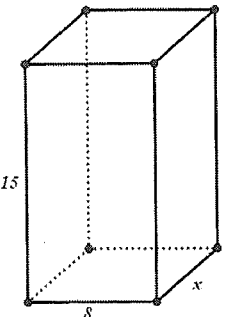
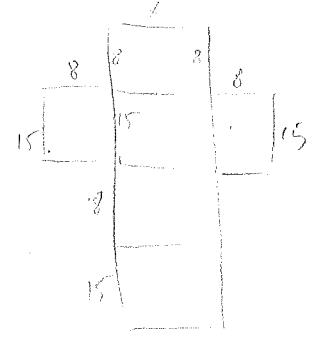
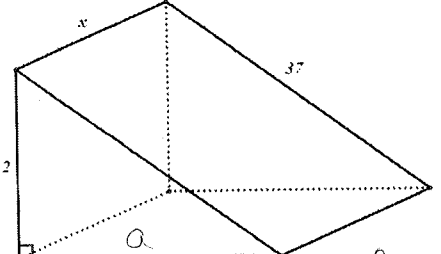
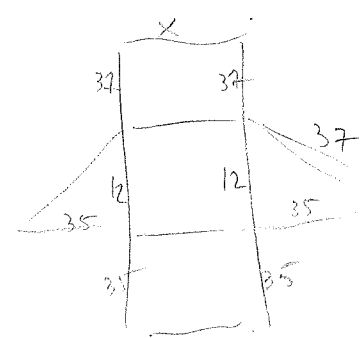
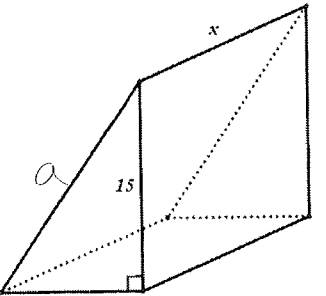
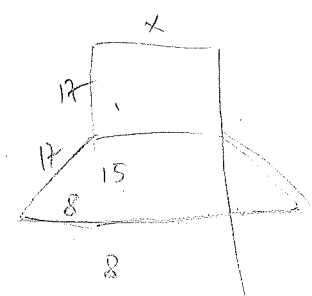
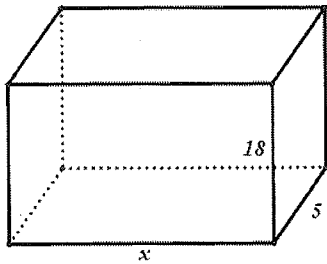


1. Quelle est la valeur de la dimension inconnue dans les diagrammes suivants ?

 <p style="text-align: center;">13 5 x</p> <p style="text-align: center;">Aire totale = 436 u<sup>2</sup></p>		$436 - 5 \cdot 13 \cdot 2 = 306$ $x = \frac{306}{(5+13)2} = 8,5$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">x = 8,5</div>
 <p style="text-align: center;">15 8 x</p> <p style="text-align: center;">Aire totale = 746 u<sup>2</sup></p>		$746 - 8 \cdot 15 \cdot 2 = 506$ $x = \frac{506}{(8+15)2} = 11$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">x = 11</div>
 <p style="text-align: center;">12 a 35 x</p> <p style="text-align: center;">Aire totale = 1512 u<sup>2</sup></p>	$a^2 = 1225$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;">a = 35</div> 	$1512 - 12 \cdot 35 \cdot 2 = 1092$ $x = \frac{1092}{35+12+35} = 13$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">x = 13</div>
 <p style="text-align: center;">8 15 a x</p> <p style="text-align: center;">Aire totale = 480 u<sup>2</sup></p>		$480 - 15 \cdot 8 \cdot 2 = 360$ $x = \frac{360}{15+17+8} = 9$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">x = 9</div>

$$a^2 = 15^2 + 8^2 = 289$$

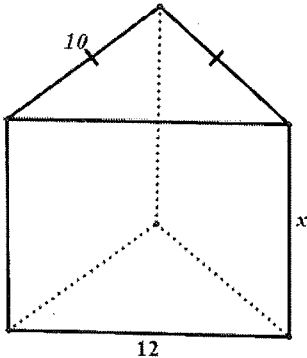
$$a = 17$$



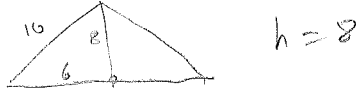
$$\text{Volume} = 675 \text{ u}^3$$

$$V = \text{aire base} \times H$$

$$675 = 5 \cdot x \cdot 18 \Rightarrow x = \frac{675}{5 \cdot 18} = 7,5$$



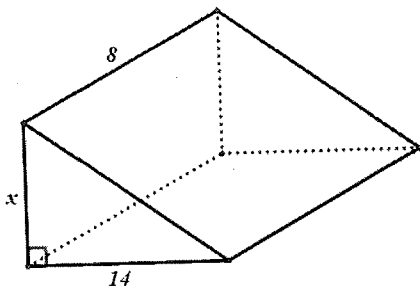
$$\text{volume} = 624 \text{ u}^3$$



$$\text{Aire base} = \frac{8 \cdot 12}{2} = 48 \text{ u}^2$$

$$V = \text{Aire base} \times H$$

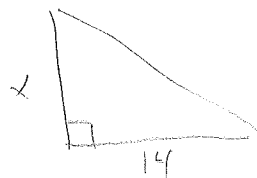
$$\frac{624}{48} = \frac{48 \cdot x}{48} \Rightarrow x = 13$$



$$\text{volume} = 1120 \text{ u}^3$$

$$V = \text{aire base} \cdot H$$

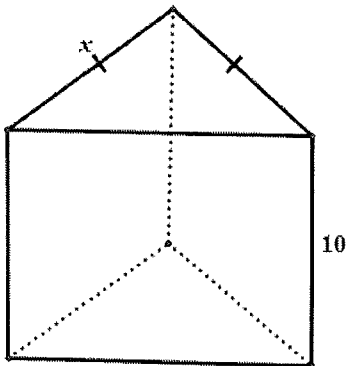
$$1120 = \text{aire base} \cdot 8 \Rightarrow \underline{\text{aire base} = 140}$$



$$\text{aire } \Delta = \frac{x \cdot 14}{2} = 140$$

$$x \cdot 14 = 280$$

$$x = 20$$



$$\text{volume} = 840 \text{ u}^3$$

$$V = \text{aire base} \cdot H$$

$$840 = \text{aire base} \cdot 10 \Rightarrow \underline{\text{aire base} = 84}$$

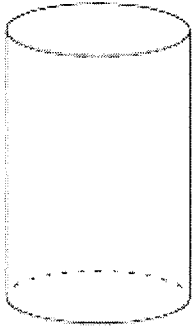
$$\text{Aire base} = \frac{H \cdot \text{base}}{2} = 84$$

$$\frac{H \cdot 48}{2} = 84 \Rightarrow H = 3,5$$

$$x^2 = 24^2 + 3,5^2 = 588,25$$

$$\text{alors } x \approx 24,25$$





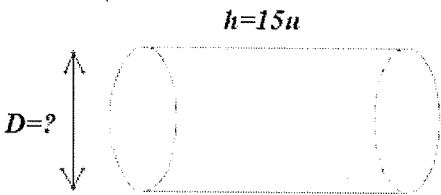
$h = ?$

$$\frac{D \cdot \pi \cdot H}{D \cdot \pi} = \frac{508,92}{D \cdot \pi}$$

$$H \approx 9u$$

$D = 18u$

Aire etiquette  $\approx 508.92u^2$

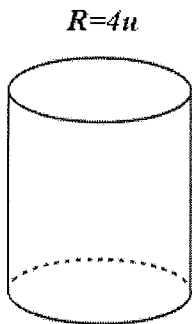


$h = 15u$

$D = ?$

$$D = \frac{400}{h \cdot \pi} \approx \underline{\underline{8,48}}$$

aire etiquette  $= 400u^2$



$R = 4u$

$h = ?$

$$\boxed{349,46}$$

Aire cyl = Aire 2 cercles + Aire S. courbe

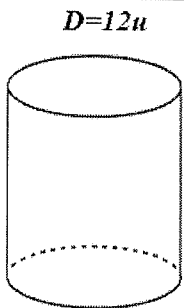
$\downarrow$   
 $2\pi R^2$

$\downarrow$   
 $D \cdot \pi \cdot H$

$450 - 2\pi R^2 = \text{Aire S. courbe} \approx 349,46$

$\underline{\underline{H}} = \frac{\text{Aire S. courbe}}{D \cdot \pi} = \frac{349,46}{18 \cdot \pi} \approx \underline{\underline{13,9u}}$

Aire cylindre  $= 450u^2$



$D = 12u$

$h = ?$

$780 - 2 \text{ cercles} = \text{surface courbe} \approx 553,8u^2$

$\underline{\underline{H}} = \frac{553,8}{12\pi} \approx \underline{\underline{14,69}}$

Aire cylindre  $= 780u^2$

$$\rightarrow R=5$$

2. Le volume d'un cylindre est de  $410\text{cm}^3$  et le diamètre de la base est de  $10\text{u}$ . Quelle est la valeur de sa hauteur ?

$$V = \text{aire base} \cdot H$$

$$\underline{H} = \frac{V}{\text{aire base}} = \frac{410}{25\pi} \approx \underline{\underline{5,22}}$$

3. Le volume d'un cylindre est de  $292\text{cm}^3$  et sa hauteur est  $8\text{u}$ . Quelle est la valeur du rayon du cercle base ?

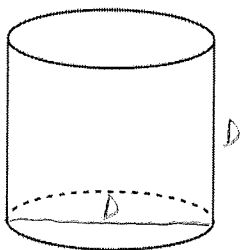
$$\text{aire base} = \frac{V}{H} = \frac{292}{8} \approx 36,5$$

$$\text{Aire} = \pi R^2 \Rightarrow \underline{R} = \sqrt{\frac{36,5}{\pi}} \approx \underline{\underline{3,40}}$$

4. L'aire totale d'un cylindre est de  $512\text{cm}^2$  et l'aire de sa surface courbe est de  $380\text{cm}^2$ . Quels sont les valeurs de la hauteur et du rayon de cercle de base ?

$$\begin{array}{l|l} \text{Aire 2 cercles} = 512 - 380 = 132 & \text{Surface courbe} = D \cdot \pi \cdot H \\ \text{Aire 1 cercle} = 132 \div 2 = 66 & \quad \quad \quad \downarrow \\ & \quad \quad \quad 4,53 \cdot 2 \\ \underline{R} = \sqrt{\frac{66}{\pi}} \approx \underline{\underline{4,53}} \Rightarrow D \approx 9,16 & \underline{H} = \frac{380}{9,16 \cdot \pi} \approx \underline{\underline{13,19}} \end{array}$$

5. La hauteur du cylindre dans le diagramme ci-dessous est égale au diamètre de la base. L'aire de l'étiquette est de  $615,75\text{u}^2$ . Quelle est la valeur de son volume ?



$$\text{Aire surface courbe} = D \cdot \pi \cdot D = 615,75$$

$$\Rightarrow D = \sqrt{\frac{615,75}{\pi}} \approx 13,99 \approx \underline{\underline{14}}$$

$$\Rightarrow \underline{\underline{R=7}}$$

$$V = \text{aire base} \times H$$

$$\underline{V} = 49\pi \cdot 14 \approx \underline{\underline{2155,13 \text{u}^3}}$$