

Outcome 1 - Calculating the volume of a cylinder

Bronze examples

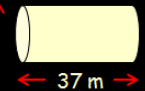
Examples... $V = \pi r^2 h$

****NOT given on formula sheet****

- Sub into formula



$$V = 3.14 \times 5^2 \times 17$$

$$= 1334.5 \text{ cm}^3$$


$$V = 3.14 \times 11^2 \times 37$$

$$= 14\,057.78 \text{ m}^3$$

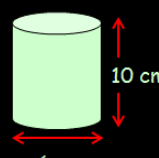
Silver examples

Examples... $V = \pi r^2 h$

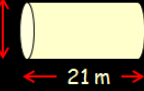
****NOT given on formula sheet****

- Sub into formula

radius = $\frac{1}{2} \times \text{diameter}$



$$V = 3.14 \times 3^2 \times 10$$

$$= 282.6 \text{ cm}^3$$


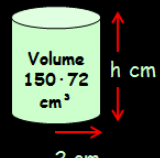
$$V = 3.14 \times 5.5^2 \times 21$$

$$= 1994.69 \text{ m}^3$$

Gold examples

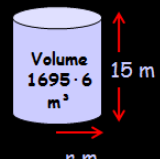
Examples... $V = \pi r^2 h$

$150.72 = 3.14 \times 2^2 \times h$
 $(3.14 \times 2^2 = 12.56)$
 $h = 150.72 \div 12.56 = 12 \text{ cm}$



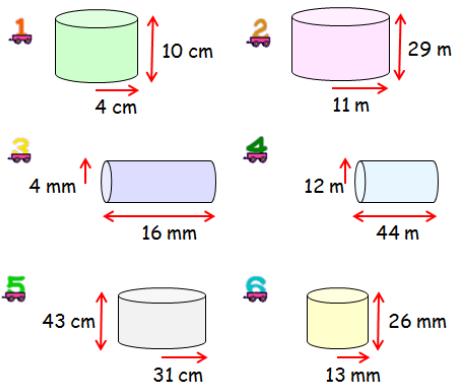
- Sub into formula
- Side calculation
- Divide

$1695.6 = 3.14 \times r^2 \times 15$
 $(3.14 \times 15 = 47.1)$
 $r^2 = 1695.6 \div 47.1 = 36$
 • Square Root $r = \sqrt{36} = 6 \text{ m}$



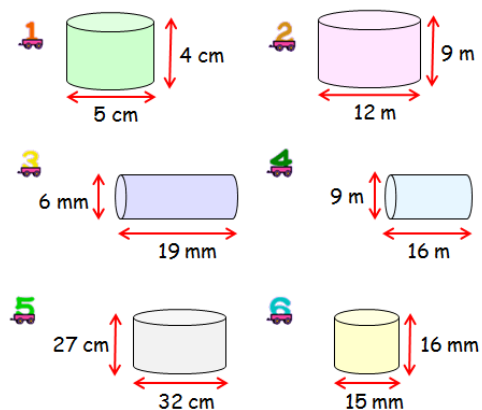
Bronze Questions

Find the volumes of the following cylinders...



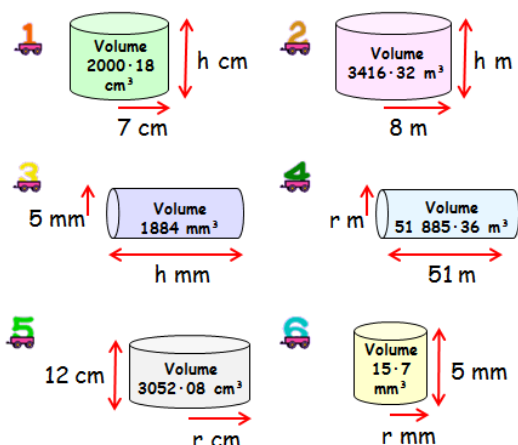
Silver Questions

Find the volumes of the following cylinders...



Gold Questions

Find the missing heights/radii of the following cylinders...



Bronze Answers

- | | |
|----------------------------------|---------------------------------|
| 1. $502\cdot4\text{ cm}^3$ | 2. $11\,018\cdot26\text{ m}^3$ |
| 3. $803\cdot84\text{ mm}^3$ | 4. $19\,895\cdot04\text{ m}^3$ |
| 5. $129\,754\cdot22\text{ cm}^3$ | 6. $13\,797\cdot16\text{ mm}^3$ |

Silver Answers

- | | |
|---------------------------------|-----------------------------|
| 1. $78\cdot5\text{ cm}^3$ | 2. $1017\cdot36\text{ m}^3$ |
| 3. $536\cdot94\text{ mm}^3$ | 4. $1017\cdot36\text{ m}^3$ |
| 5. $21\,703\cdot68\text{ cm}^3$ | 6. 2826 mm^3 |

Gold Answers

- | | |
|----------|---------|
| 1. 13 cm | 2. 17 m |
| 3. 24 mm | 4. 18 m |
| 5. 9 cm | 6. 1 mm |