

Name: \_\_\_\_\_

**Solid Geometry**

1. Convert the following volumes to the units given in brackets.

(a) $7.6 \text{ l} = \text{_____ cm}^3$	(b) $8.9 \text{ cm}^3 = \text{_____ mm}^3$	(c) $285\,000 \text{ cm}^3 = \text{_____ m}^3$
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2. Drag the correct volume formulae to relevant diagram.

$\pi r^2 h$

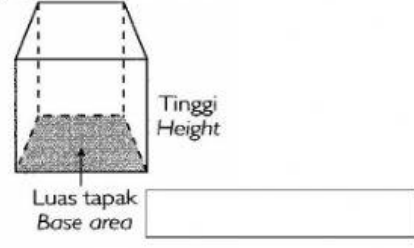
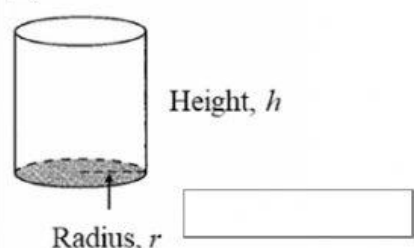
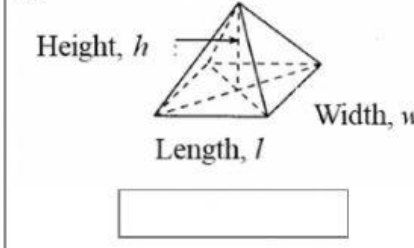
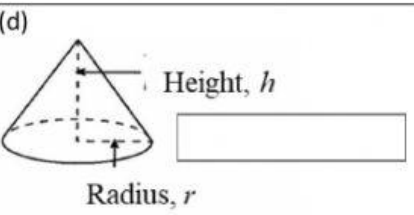
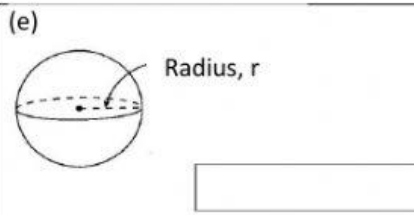
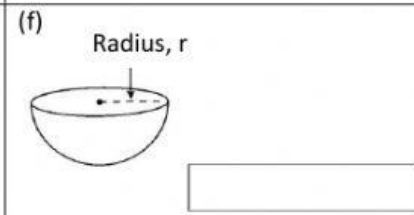
Base Area x Height

$\frac{2}{3} \pi r^3$

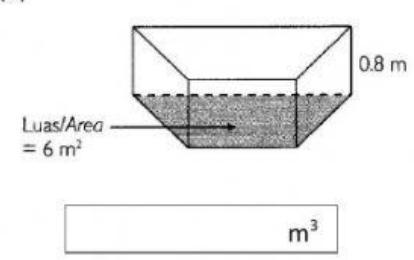
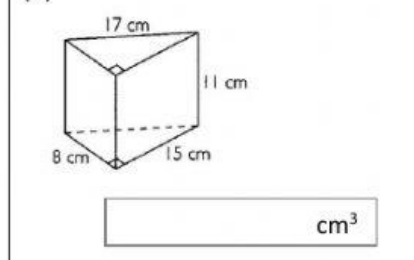
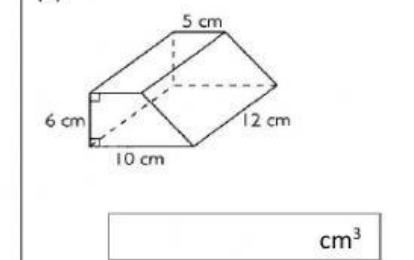
$\frac{1}{3} wlh$

$\frac{1}{3} \pi r^2 h$

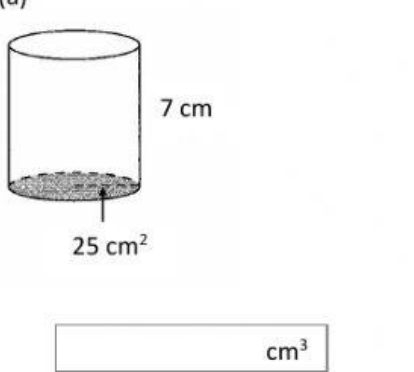
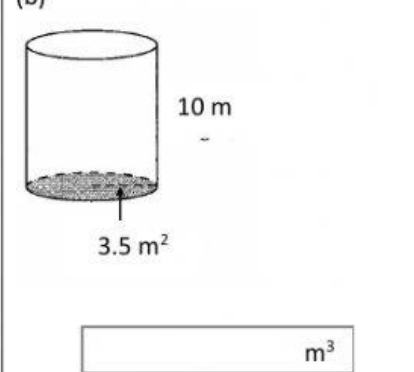
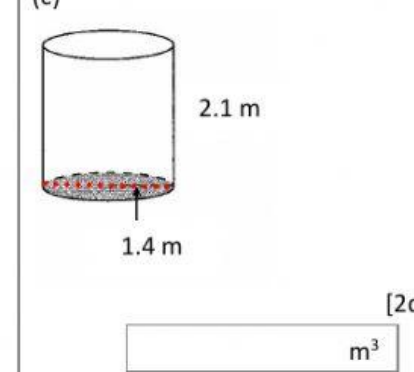
$\frac{4}{3} \pi r^3$

(a) 	(b) 	(c) 
(d) 	(e) 	(f) 

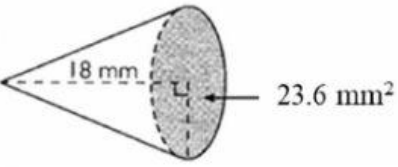
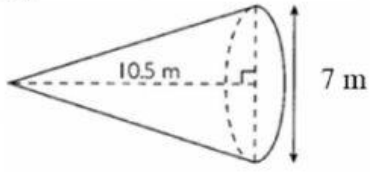
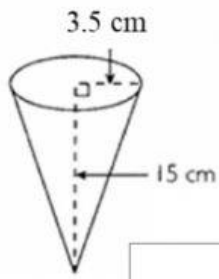
3. Find the volume of prism.

(a) 	(b) 	(c) 
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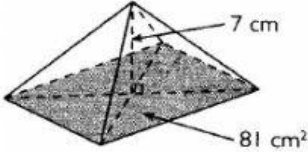
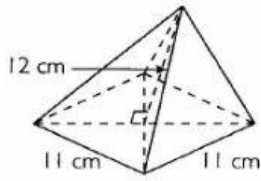
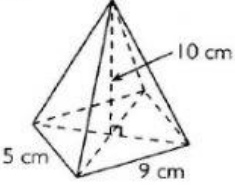
4. Find the volume of cylinder. [use  $\pi = \frac{22}{7}$ ]

(a) 	(b) 	(c) 
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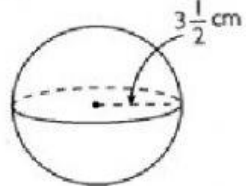
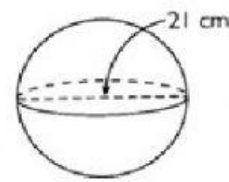
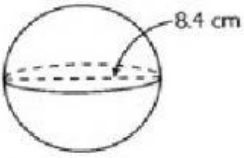
5. Find the volume of cone. [use  $\pi = \frac{22}{7}$ ]

<p>(a)</p>  <p>[1d.p]</p> <p><input type="text"/> mm<sup>3</sup></p>	<p>(b)</p>  <p>[2d.p]</p> <p><input type="text"/> m<sup>3</sup></p>	<p>(c)</p>  <p>[2d.p]</p> <p><input type="text"/> cm<sup>3</sup></p>
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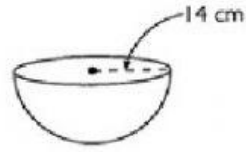
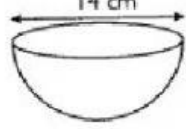
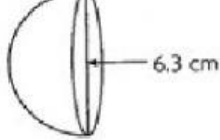
6. Find the volume of pyramid.

<p>(a)</p>  <p><input type="text"/> cm<sup>3</sup></p>	<p>(b)</p>  <p><input type="text"/> cm<sup>3</sup></p>	<p>(c)</p>  <p><input type="text"/> cm<sup>3</sup></p>
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7. Find the volume of sphere. [use  $\pi = \frac{22}{7}$ ]

<p>(a)</p>  <p>[2d.p]</p> <p><input type="text"/> cm<sup>3</sup></p>	<p>(b)</p>  <p><input type="text"/> cm<sup>3</sup></p>	<p>(c)</p>  <p>[2d.p]</p> <p><input type="text"/> cm<sup>3</sup></p>
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8. Find the volume of hemisphere. [use  $\pi = \frac{22}{7}$ ]

<p>(a)</p>  <p>[2d.p]</p> <p><input type="text"/> cm<sup>3</sup></p>	<p>(b)</p>  <p>[2d.p]</p> <p><input type="text"/> cm<sup>3</sup></p>	<p>(c)</p>  <p>[2d.p]</p> <p><input type="text"/> cm<sup>3</sup></p>
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9. Calculate the height of each prism based on the given volume and base area.

<p>(a) Volume = <math>216 \text{ m}^3</math> Base area = <math>48 \text{ m}^2</math></p> <p>[1d.p]</p> <p><input type="text"/> m</p>	<p>(b) Volume = <math>2000 \text{ cm}^3</math> Base area = <math>160 \text{ cm}^2</math></p> <p>[1d.p]</p> <p><input type="text"/> cm</p>	<p>(c) Volume = <math>10\,500 \text{ mm}^3</math> Base area = <math>560 \text{ mm}^2</math></p> <p>[2d.p]</p> <p><input type="text"/> mm</p>
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10. Calculate the base area of each prism based on the given volume and height.

<p>(a) Volume = <math>342 \text{ cm}^3</math> Height = <math>7.5 \text{ cm}</math></p> <p>[1d.p]</p> <p><input type="text"/> <math>\text{cm}^2</math></p>	<p>(b) Volume = <math>1\,192.8 \text{ cm}^3</math> Height = <math>14 \text{ cm}</math></p> <p>[1d.p]</p> <p><input type="text"/> <math>\text{cm}^2</math></p>	<p>(c) Volume = <math>133 \text{ m}^3</math> Height = <math>3.8 \text{ m}</math></p> <p>[1d.p]</p> <p><input type="text"/> <math>\text{m}^2</math></p>
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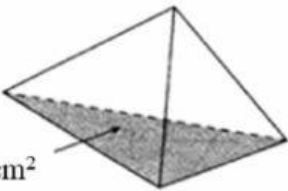
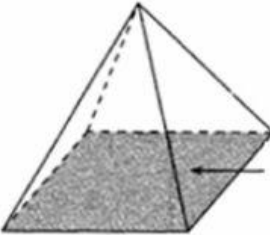
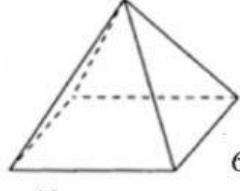
11. Find the height of each cylinder based on the given volume and radius. [use  $\pi = \frac{22}{7}$ ]

<p>(a) Volume = <math>550 \text{ cm}^3</math> Radius = <math>5 \text{ cm}</math></p> <p>[2d.p]</p> <p><input type="text"/> cm</p>	<p>(b) Volume = <math>847 \text{ cm}^3</math> Radius = <math>3.5 \text{ cm}</math></p> <p>[2d.p]</p> <p><input type="text"/> cm</p>	<p>(c) Volume = <math>69.3 \text{ cm}^3</math> Radius = <math>2.1 \text{ cm}</math></p> <p>[2d.p]</p> <p><input type="text"/> cm</p>
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12. Find the radius of each cylinder based on the given volume and height. [use  $\pi = \frac{22}{7}$ ]

<p>(a) Volume = <math>396 \text{ cm}^3</math> Height = <math>14 \text{ cm}</math></p> <p>[1d.p]</p> <p><input type="text"/> cm</p>	<p>(b) Volume = <math>550 \text{ cm}^3</math> Height = <math>7 \text{ cm}</math></p> <p>[1d.p]</p> <p><input type="text"/> cm</p>	<p>(c) Volume = <math>2\,772 \text{ cm}^3</math> Height = <math>8 \text{ cm}</math></p> <p>[1d.p]</p> <p><input type="text"/> cm</p>
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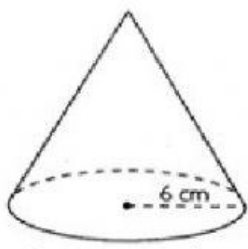
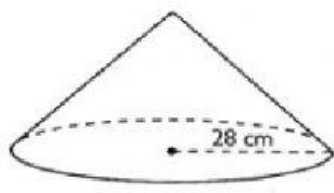
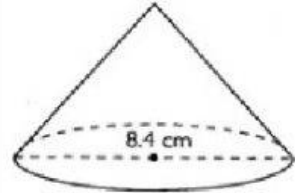
13. Find the height of each of the following pyramids.

<p>(a)</p>  <p><math>540 \text{ cm}^2</math></p> <p>Volume = <math>2\,700 \text{ cm}^3</math></p> <p><input type="text"/> cm</p>	<p>(b)</p>  <p><math>42.6 \text{ cm}^2</math></p> <p>Volume = <math>284 \text{ cm}^3</math></p> <p><input type="text"/> cm</p>	<p>(c)</p>  <p><math>10 \text{ cm}</math></p> <p><math>6 \text{ cm}</math></p> <p>Volume = <math>150 \text{ cm}^3</math></p> <p>[1d.p]</p> <p><input type="text"/> cm</p>
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14. Find the base area of each pyramid based on the given volume and height.

(a) Volume = $480 \text{ cm}^3$ Height = 9 cm <input type="text"/> $\text{cm}^2$	(b) Volume = $1.6 \text{ m}^3$ Height = 0.6 m <input type="text"/> $\text{m}^2$	(c) Volume = $6\,741 \text{ m}^3$ Height = 21 m <input type="text"/> $\text{m}^2$
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15. Find the height of each of the following cones. [use  $\pi = \frac{22}{7}$ ]

(a)  Volume = $528 \text{ cm}^3$ <input type="text"/> cm	(b)  Volume = $6\,160 \text{ cm}^3$ [1d.p] <input type="text"/> cm	(c)  Volume = $92.4 \text{ cm}^3$ <input type="text"/> cm
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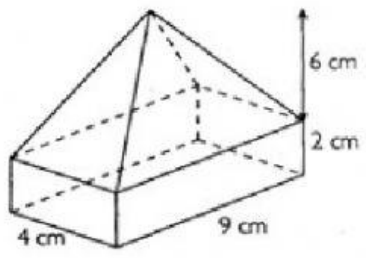
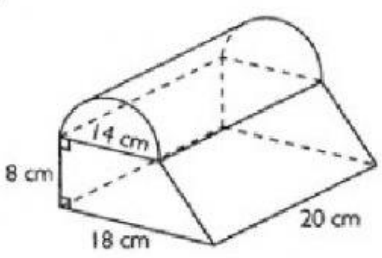
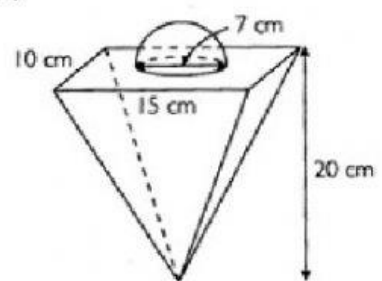
16. Find the radius of each cone based on the given volume and height. [use  $\pi = \frac{22}{7}$ ]

(a) Volume = $264 \text{ cm}^3$ Height = 7 cm <input type="text"/> cm	(b) Volume = $154 \text{ cm}^3$ Height = 12 cm <input type="text"/> cm [1d.p]	(c) Volume = $1\,188 \text{ m}^3$ Height = 14 m <input type="text"/> m
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17. Calculate the radius of a sphere or hemisphere based on the given volume. [use  $\pi = \frac{22}{7}$ ]

(a) Volume of a sphere = $268\frac{4}{21} \text{ cm}^3$ <input type="text"/> cm	(b) Volume of a sphere = $33\frac{11}{21} \text{ cm}^3$ <input type="text"/> cm	(c) Volume of a hemisphere = $56\frac{4}{7} \text{ cm}^3$ <input type="text"/> cm
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18. Find the volume of each of the following composite solids. [use  $\pi = \frac{22}{7}$ ]

(a)  <input type="text"/> $\text{cm}^3$	(b)  <input type="text"/> $\text{cm}^3$	(c)  <input type="text"/> $\text{cm}^3$
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