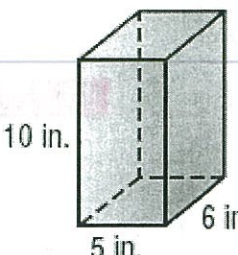
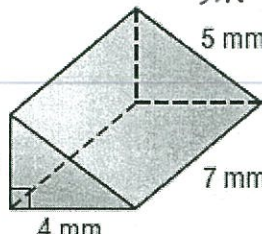
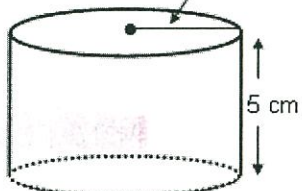
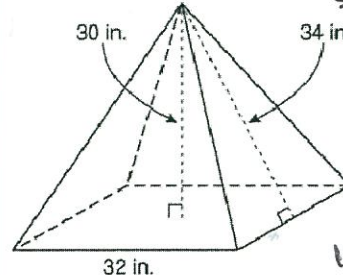
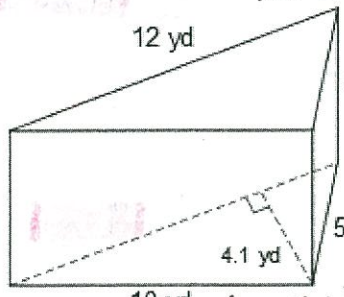
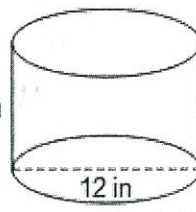
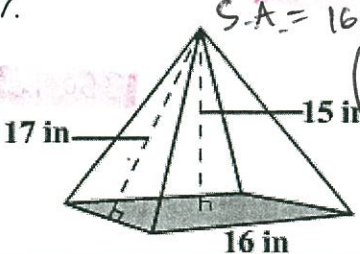

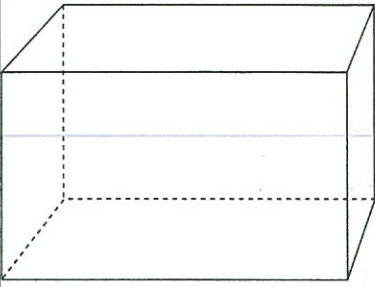
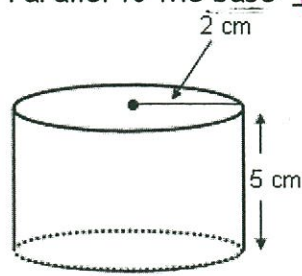


3D Test Review

Find the Surface Area and Volume for each of the following shapes. Remember to show ALL of your work and round to the tenths place when necessary!

		Answers
<p>1.</p>  <p> $S.A. = (5 \cdot 6 \cdot 2) = 60$ $(5 \cdot 10 \cdot 2) = 100$ $(6 \cdot 10 \cdot 2) = 120$ $\underline{\hspace{2cm}} 280 \text{ in}^2$ </p> <p> $V = 5 \cdot 6 \cdot 10 = 300 \text{ in}^3$ </p>	<p>2.</p>  <p> $S.A. = \left(\frac{3 \cdot 4}{2}\right) \cdot 7 = 42 \text{ mm}^2$ </p> <p> $V = \left(\frac{3 \cdot 4}{2}\right) \cdot 7 = 42 \text{ mm}^3$ </p>	<p>1. SA = <u>280 in²</u></p> <p>V = <u>300 in³</u></p> <p>2. SA = <u>96 mm²</u></p> <p>V = <u>42 mm³</u></p>
<p>3.</p>  <p> $S.A. = \pi(2)^2 \cdot 2 = 25.1$ $\pi(4) \cdot 5 = 62.8$ $\underline{\hspace{2cm}} 87.9 \text{ cm}^2$ </p> <p> $V = \pi(2)^2 \cdot 5 = 62.8 \text{ cm}^3$ </p>	<p>4.</p>  <p> $S.A. = 32 \cdot 32 = 1024$ $\left(\frac{32 \cdot 34}{2}\right) \cdot 4 = 2176$ $\underline{\hspace{2cm}} 3200 \text{ in}^2$ </p> <p> $V = \frac{32^2 \cdot 30}{3} = 10240 \text{ in}^3$ </p>	<p>3. SA = <u>87.9 cm²</u></p> <p>V = <u>62.8 cm³</u></p> <p>4. SA = <u>3200 in²</u></p> <p>V = <u>10240 in³</u></p>
<p>5.</p>  <p> $S.A. = \left(\frac{12 \cdot 4.1}{2}\right) \cdot 4 = 49.2$ $5 \cdot 9 = 45$ $10 \cdot 9 = 90$ $12 \cdot 9 = 108$ $\underline{\hspace{2cm}} 292.2 \text{ yd}^2$ </p> <p> $V = \left(\frac{12 \cdot 4.1}{2}\right) \cdot 9 = 221.4 \text{ yd}^3$ </p>	<p>6.</p>  <p> $S.A. = \pi(6)^2 \cdot 2 = 226.1$ $\pi(12) \cdot 8 = 301.4$ $\underline{\hspace{2cm}} 527.5 \text{ in}^2$ </p> <p> $V = \pi(6)^2 \cdot 8 = 904.3 \text{ in}^3$ </p>	<p>5. SA = <u>292.2 yd²</u></p> <p>V = <u>221.4 yd³</u></p> <p>6. SA = <u>527.5 in²</u></p> <p>V = <u>904.3 in³</u></p>
<p>7.</p>  <p> $S.A. = 16 \cdot 16 = 256$ $\left(\frac{16 \cdot 17}{2}\right) \cdot 4 = 544$ $\underline{\hspace{2cm}} 800 \text{ in}^2$ </p> <p> $V = \frac{16^2 \cdot 15}{3} = 1280 \text{ in}^3$ </p>	<p>8.</p>  <p> $S.A. = 5^2 \cdot 6 = 150 \text{ mi}^2$ </p> <p> $V = 5^3 = 125 \text{ mi}^3$ </p>	<p>7. SA = <u>800 in²</u></p> <p>V = <u>1280 in³</u></p> <p>8. SA = <u>150 mi²</u></p> <p>V = <u>125 mi³</u></p>

<p>9. The base of a square pyramid has a base area of 48 square millimeters and a height of 13 millimeters. Find the volume.</p> $V = \frac{48 \cdot 13}{3} = 208 \text{ mm}^3$	<p>10. A rectangular prism is shown below. The volume of the prism is 120 cm^3. Find the length.</p> $120 = 8 \cdot 2 \cdot l$ $\frac{120}{8 \text{ cm} \cdot 2} = \frac{16l}{16}$ $l = 7.5 \text{ cm}$ 	<p>Answers</p> <p>9. <u>208 mm³</u></p> <p>10. <u>7.5 cm</u></p>
<p>11. Brittany is going to cover the label of a Pringle's can and decorate it. The can has a diameter of 4.5 inches and a height of 14 inches. How much paper will Brittany need to cover the Pringle's can?</p> $\pi(4.5) \cdot 14 = 197.8 \text{ in}^2$	<p>12. A package shaped like a cube has an edge that is 28 cm long. How much wrapping is required to wrap the package?</p> $28^2 \cdot 6 = 4704 \text{ cm}^2$	<p>Answers</p> <p>11. <u>197.8 in²</u></p> <p>12. <u>4704 cm²</u></p>
<p>13. The volume of a square pyramid is 605 m^3. Calculate the dimensions of the base of the square if the pyramid has a height of 15m.</p> $3 \cdot 605 = \frac{b^2 \cdot 15}{3} \cdot 3$ $\frac{1815}{15} = \frac{b^2 \cdot 15}{15}$ $\sqrt{121} = \sqrt{b^2} \quad b = 11 \text{ m}$	<p>14. The volume of a cylinder is $441\pi \text{ in}^3$. The radius of the cylinder is 7 in. Calculate the height of the cylinder.</p> $\frac{441\pi}{\pi} = \frac{\pi(7)^2 \cdot h}{\pi}$ $\frac{441}{49} = \frac{49h}{49}$ $h = 9 \text{ in}$	<p>Answers</p> <p>13. <u>11 m</u></p> <p>14. <u>9 in</u></p>
<p>15. Kaitlyn bakes two rectangular cakes to put on top of each other. Each cake is 6 inches wide, 12 inches long and 3 inches high. She removes the cake from the pan to frost it. How many square inches of frosting does she need for both cakes?</p> $(6 \cdot 3 \cdot 2) = 36$ $(12 \cdot 3 \cdot 2) = 72$ $(6 \cdot 12) = 72$ $180 \cdot 2 = 360 \text{ in}^2$ <p style="text-align: center;">↓ because there are 2 cakes</p>	<p>16. Describe the cross sections: Perpendicular to the base: <u>rectangular</u> Parallel to the base: <u>circle</u></p> 	<p>Answers</p> <p>15. <u>360 in²</u></p> <p>16. _____</p>