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| **Surface Areas of Cylinders, Cones and Spheres** |
| $$Curved Surface Area of Cone$$$$=πrl$$ | $$Curved Surface Area of Cylinder$$$$=2πrh$$ | $$Surface Area of Sphere$$$$=4πr^{2}$$ |
| **(a)** | **(b)** | **(c)** |
| Find the curved surface area, giving your answer in terms of $π$ | Find the surface area, giving your answer to 3 significant figures | Find the curved surface area giving your answer to the nearest $cm^{2}$ |
| **(d)** | **(e)** | **(f)** |
| Find the **total** surface area, giving your answer to 2 decimal places | Find the **total** surface area, giving your answer to the nearest $cm^{2}$ | Find the surface area, leaving your answer in terms of $π$ |
| **(g)** | **(h)** | **(i)** |
| Find the total surface area of the hemisphere, leaving your answer in terms of $π$ | The cone has a curved surface area of $177 cm^{2}$. Find the radius $r$ to 1 decimal place. | The total surface area is $744π mm^{2}. $Find the height of the cylinder. |
| **(j)** | **(k)** |
| A shape is made by joining a hemisphere to a cylinder. Both have a radius of $6.5 cm$. Find the surface area of the compound shape to the nearest $cm^{2}$. | A shape is made by joining a cone to a hemisphere, where both shapes have the same radius. The total surface area is $246π cm^{2}$. Find the slanted height $l$ of the cone.  |