Volume

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|  Cylinders:$$V=πr^{2}h $$http://www.online-calculators.co.uk/volumetric/cylinder.gif | Example: $V=πr^{2}h$$$V=π∙5^{2}∙10$$$$V=π∙25∙10$$$$V=π∙250$$$$V=250π cm^{3}(exact)$$$ V≈785 cm^{3} (estimate using π≈3.14)$ |
| http://04.edu-cdn.com/files/static/learningexpressllc/9781576856918/VOLUME_WORD_PROBLEMS_04.GIFCones:$$V=\frac{1}{3}πr^{2}h$$ | Example:$$V=\frac{1}{3}πr^{2}h$$$$V=\frac{1}{3}πr^{2}h$$$$V=\frac{1}{3}π∙16∙9$$$$V=π∙\frac{1}{3}∙144$$http://www.math.com/school/subject3/images/S3U4L4DP10.gif $V=π∙48$$$V=48π cm^{3}(exact answer)$$$$V≈150.72 cm^{3} (estimate using π≈3.14)$$ |
| http://www.unitmath.com/um/p/Examples/GeometricSolids/sphere.gifSpheres:$$V=\frac{4}{3}πr^{3}$$ | Example:$$V=\frac{4}{3}πr^{3}$$$$V=\frac{4}{3}∙π∙4^{3}$$$$V=\frac{4}{3}∙π∙216$$$$V=π∙288$$http://everythingmaths.co.za/grade-10/12-measurement/pspictures/f1a9e89a5637582b9dc69d9cdcd8da97.png$V=288π cm^{3}(exact answer)$$$V≈904.32 cm^{3}(estimate using π≈3.14)$$ |
| Helpful Hints:If you are given the DIAMETER instead of the radius, remember that 2r=d (so divide the diameter by 2 to get the radius). For the EXACT volume, leave π as part of your answer. For an ESTIMATE or APPROXIMATION, use 3.14 as an estimate for π and multiply.For estimated answers, a shortcut is to use $π≈3$ Just remember that your answer will be a little LOWER than the actual answer! |