

Year 09 Weekly Tutorial - 06

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1. Simplify; $\left(\frac{x^5y^{-5}}{27y}\right)^{-\frac{3}{2}}$

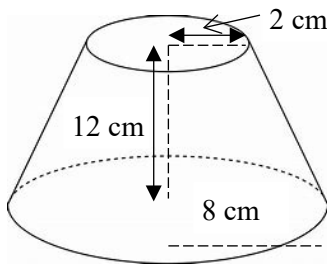
2. Make x the subject. $y = \frac{x^2-5}{2x^2-3}$

3. Expand and simplify, $(3x + 2)(4 - x)^2$

4. Rationalize the denominator, $\frac{3\sqrt{7}+1}{2\sqrt{7}-1}$

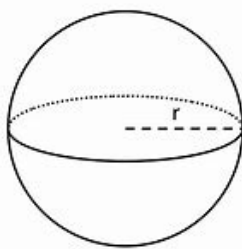
5. Solve and give the answer in simplest form, $\sqrt{3}(2x - 1) = 3x + 2$

6.

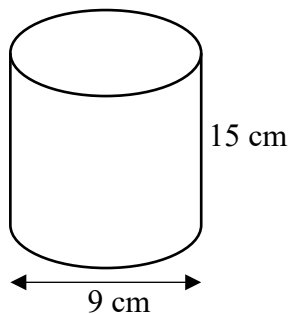


- a) Find the volume of the frustum.
b) Find the curved surface area of the frustum.
Give the answers correct to 1dp.

7.



Sphere



Find the radius of the sphere, if the volume of sphere and the cylinder is same.

8. y is directly proportional to square of x .
When $x = 2.3$, $y = 9.5$. Find y , when $x = 5.3$

9. y is inversely proportional to x .

When $x = 12.5$, $y = 3.4$. Find x , when $y = 6.3$

10. y is inversely proportional to square root of x .

When $x = 25.1$, $y = 75.8$. Find y , when $x = 36.6$