

Week 3: Formulae and Functions

Try these exercises now.

1. Transpose $v = \sqrt{x + 27}$, (a) for x , (b) for y .
2. The surface area of a sphere is given by the formula $SA = 4\pi r^2$. If the sphere has a surface area of 20cm^2 , what is the radius of the sphere?
3. The volume of a cone is given by $V = \frac{1}{3}\pi r^2 h$
 - (a) Calculate the volume of a cone with radius 4cm and height 5cm.
 - (b) Rearrange the formula to make h the subject.
 - (c) Rearrange the formula to make r the subject.
 - (d) What height is a cone whose radius is 2.4 cm and whose volume is 37cm^3
4. Given two functions $g(t) = 3t + 2$ and $h(t) = t + 3$, obtain an expression for, (a) the composition $g(h(t))$, (b) the composition $h(g(t))$, and (c) $g(g(t))$
5. Use the following function rule to find $f(12)$. $f(x) = -3 - 11x$