

Questions for Module#2

- Q.1 Given $f(x) = 3 - 5x - 2x^2$ find $f(6 - t)$ [Solution](#)
- Q.2 Given $g(t) = \frac{t}{2t+6}$ find $g(-3)$ [Solution](#)
- Q.3 Given $R(x) = \sqrt{3+x} - \frac{4}{x+1}$ find $R\left(\frac{1}{x} - 1\right)$ [Solution](#)
- Q.4 Determine all the roots of $f(x) = x^5 - 4x^4 - 32x^3$. [Solution](#)
- Q.5 Determine all the roots of $f(t) = t^{\frac{5}{3}} - 7t^{\frac{4}{3}} - 8t$. [Solution](#)
- Q.6 Find the domain and range of $Y(t) = 3t^2 - 2t + 1$. [Solution](#)
- Q.7 Find the domain and range of $M(x) = 5 - |x + 8|$. [Solution](#)
- Q.8 Find the domain of $R(z) = \frac{5}{z^3 + 10z^2 + 9z}$. [Solution](#)
- Q.9 Find the domain of $h(x) = \sqrt{x^4 - x^3 - 20x^2}$. [Solution](#)
- Q.10 Compute $(f \circ g)(x)$ and $(g \circ f)(x)$ for $f(x) = 4x - 1$, $g(x) = \sqrt{6 + 7x}$. [Solution](#)
- Q.11 Find the inverse function for $g(x) = 4(x - 3)^2 + 21$. Hint: if you put $y = g(x) = 4(x - 3)^2 + 21$ then this relation is true for all values of x and y so you are allowed to exchange x with y . Further, note that $x = g^{-1}(y)$. [Solution](#)
- Q.12 Without using a graphing calculator sketch the graph of $f(x) = |x - 3|$. [Solution](#)
- Q.13 Without using a graphing calculator sketch the graph of $h(x) = (x - 3)^2 + 4$. [Solution](#)
- Q.14 Without using a graphing calculator sketch the graph of $g(x) = \sqrt{-x}$. [Solution](#)
- Q.15 Without using a graphing calculator sketch the graph of $h(x) = 2x^2 - 3x + 4$. [Solution](#)
- Q.16 Without using a graphing calculator sketch the graph of $(x + 1)^2 + (y - 5)^2 = 9$. [Solution](#)
- Q.17 Without using a graphing calculator sketch the graph of $x^2 - 4x + y^2 - 6y - 87 = 0$. [Solution](#)
- Q.18 Without using a graphing calculator sketch the graph of $25(x + 2)^2 + \frac{y^2}{4} = 1$. [Solution](#)
- Q.19 Without using a graphing calculator sketch the graph of $\frac{x^2}{36} - \frac{y^2}{49} = 1$. [Solution](#)
- Q.20 Without using a graphing calculator sketch the graph of $(y + 2)^2 - \frac{(x + 4)^2}{16} = 1$. [Solution](#)