1.4 Homework

Marks Available : 46

Question 1

Without using a calculator, determine the value of each of the following.
You may leave answers as fractions where it is helpful to do so.

(i) 5^3

(ii) $(-2)^8$

(iii) $(-1)^3$

(iv) $\left(\dfrac{1}{3}\right)^3$

(v) $\left(\dfrac{4}{25}\right)^{\frac{1}{2}}$

(vi) 0.5^2

(vii) $\left(\sqrt{\pi^4}\right)^0$

(viii) $(-1)^4$

(ix) $144^{\frac{1}{2}}$

(x) $625^{\frac{1}{4}}$

(xi) $1^{\frac{1}{3}}$

(xii) $\left(\dfrac{1}{9}\right)^{\frac{1}{2}}$

(xiii) 11^2

(xiv) $\left(\dfrac{8}{7}\right)^2$

(xv) $\sqrt{\dfrac{13^2 - 12^2}{3^2 + 4^2}}$

(xvi) 20^3

(xvii) $\left(\dfrac{\log(\pi)}{\pi + \sqrt{\frac{1}{\pi}}}\right)^0$

(xviii) $16^{\frac{3}{2}}$

(xix) $27^{\frac{2}{3}}$

(xx) 21^{-1}

(xxi) $\left(-\dfrac{3}{8}\right)^2$

(xxii) $\left(\dfrac{7}{9}\right)^{-1}$

(xxiii) $\sqrt{\sqrt{10000}}$

(xxiv) $(-1)^{101}$

(xxv) $\left(\dfrac{1}{2}\right)^{-3}$

(xxvi) $125^{\frac{2}{3}}$

[26 marks]

Question 2
Without using a calculator, for the curve with equation
$$y = x^2 + 3$$
write down points on the curve with the x values given.

(1, _____)   (4, _____)   (100, _____)   (− 1, _____)

[4 marks]

Question 3
Without using a calculator, for the curve with equation;
$$y = x^{0.5} + x$$
write down points on the curve with the x values given.

(0, _____)   (1, _____)   (9, _____)   (100, _____)

[4 marks]

Question 4
Without using a calculator, for the curve with equation
$$y = 6\,x^{-1}$$
write down points on the curve with the x values given.

(1, _____)   (2, _____)   (3, _____)   (6, _____)

[4 marks]

Question 5
Without using a calculator, for the curve with equation
$$y = 64\,x^{-2}$$
write down points on the curve with the x values given.

(1, _____)   (2 , _____)   (4, _____)   (8, _____)

[4 marks]

Question 6
Without using a calculator, for the curve with equation
$$y = 12\,x^{\frac{1}{2}}$$
write down points on the curve with the x values given.

(1, ____)   (4, ____)   (36, ____) $\left(\dfrac{1}{4}, \text{____} \right)$

[4 marks]