

Cubics : 2 : Factors and Solving Equations

1) In each case prove as required

a) $x^3 + 2x^2 - x - 2$ has $x+2$ as a factor

b) $3x^3 - 2x^2 + x + 2$ does not have $x-2$ as a factor

c) $x^3 + x^2 + x - 2$ does not have $x-1$ as a factor

d) $x^3 - 5x^2 - 2x + 24$ has $x-3$ as a factor

e) $6x^3 + 5x^2 - 3x - 2$ does not have $x+2$ as a factor

f) $x^3 - 3$ does not have $x+2$ as a factor

g) $9x^3 + 18x^2 - 4x - 8$ has $x+2$ as a factor

2) Factorise

a) $4x^3 - 21x - 10$

b) $6x^3 - 7x^2 - 14x + 8$

c) $x^3 + 2x^2 - x - 2$

d) $x^3 + 3x^2 - x - 3$

e) $x^3 - 3x^2 - x + 3$

3) Solve : Use Q 2) to help !!!

a) $4x^3 - 21x - 10 = 0$

b) $6x^3 - 7x^2 - 14x + 8 = 0$

c) $x^3 + 2x^2 - x - 2 = 0$

d) $x^3 + 3x^2 - x - 3 = 0$

e) $x^3 - 3x^2 - x + 3 = 0$