MBA Maths 2009
Practice quiz 1 solutions

Question 1
Fully Factorize

(a) \(x^2-2x-8\)
\((x-4)(x+2)\)

(b) \(x^2-6x+9\)
\((x-3)^2\)

(c) \(9x^2+30x+25\)
\((3x+5)^2\)

(d) \(x^4-16\)
\((x-2)(x+2)(x^2+4)\)

(e) \(6x^3+x^2-2x\)
\(x(3x+2)(2x-1)\)

Question 2
Solve by Factorizing

(a) \(x^2-7x+12=0\)
\((x-4)(x-3) = 0\)
x = 4; x = 3

(b) \(y^2-5y=6\)
\((y-6)(y+1) = 0\)
y = 6; y = -1

(c) \(t^3=25t\)
\(t(t^2-25) = 0\)
t = 0; t = 5; t = -5

(d) \(15s^2-8=-14s\)
\((3s-2)(5s+4) = 0\)
s = 2/5; s = -4/3

(e) \(6-x^2=x\)
\(x^2 + x - 6 = 0\)
\((x-2)(x+3) = 0\)
x = 2; x = -3

Question 3
Express as Positive integers

(a) \(\left(\sqrt{xy}\right)^3\)
\(x^{3/2}y^2\)

(b) \(\left(\sqrt{xy}\right)^4 - x^{-1}y\)
\(xy^3\)

(c) \(\frac{120x^2y}{16xy^2}\)
\(\frac{15x}{2y}\)

(d) \(\left(\frac{15x}{72y}\right) / \left(\frac{9y}{12z}\right)\)
\(\frac{5xy}{9/10y}\)

(e) \(\frac{\sqrt{12x^4y^6 \sqrt{5x^3}}}{\sqrt{15x}}\)
\(2x^3\)

Question 4
Solve for x

(a) \(\frac{5x-2}{x+1} = 0\)
x = -2/5

(b) \(\frac{4p}{7-p} = 1\) (NB p should be x)
p = 7/5

(c) \(\frac{1}{x-3} - \frac{3}{x-2} = \frac{4}{1-2x}\)
x = 17/4

(d) \(\frac{2x}{x-3} - \frac{x+1}{x+2} = 1\)
x = -9/7