Assignment 1

Q1. Roots of polynomials

Find the real roots (zeroes in $$\mathbb{R}$$) of the following polynomials.

Q1.1. (x-3)(x+4)

$$(x-3)(x+4)$$

A. x=3 and x=4

B. x=3 and x=-4

C. x=-3 and x=4

D. x=-3 and x=-4

E. none of the above

Q1.2. x squared minus x minus 12

$$x^2-x-12$$

A. x=3 and x=4

B. x=3 and x=-4

C. x=-3 and x=4

D. x=-3 and x=-4

E. none of the above

Q1.3. x squared plus x plus 1

$$x^2+x+1$$

A. x=1 and x=0

B. x=-1 and x=0

C. x=-2 and x=2

D. x=-1 and x=1

E. none of the above

Q2. Logarithmic Functions

Determine which of the following are logarithmic functions

Q3. Exponentials

Determine which of the following are exponential functions

Q4. Linear Functions

Determine if the following are linear functions or not

Q4.1. F(x) = 3x

A. Linear

B. Not Linear

Q4.2. G(Y) = 3Y + 4

A. Linear

B. Not Linear

Q4.3. H(x,y) = x*x +y

A. Linear

B. Not Linear

Q4.4. T(x,y) = 3x + 5y

A. Linear

B. Not Linear

Q5. Consider the following Functions

$$P(x) = x^2 +2$$
$$ Q(x) = x^2 -1$$

Q5.1. Degree P

What is the degree of P

Q5.2. Degree Q

What is the degree of Q

Q5.3. Degree P(Q(x))

What is the degree of P(Q(x))