**Functions**

*f* (*x*)=3 *x*2−2 *x*+5 Find *f*(3)

f(3)=3x^2-2x+5

* 9^2-6+5
* 81-6+5

= 80

**Rearranging – find *x* in each case**

1. **x+10/2x+3 = 2**

* **X+10 = 2 x 2x+3**
* **X+10 = 4x+3**
* **10-3=3x**
* **X=7/3 or X=2.33**

1. *x*3+*x*2−6*x*=0

* x(x-2)(x+3)=0
* x=0, x=2, x=-3

**Order of opperations**

1. Evaluate 3∗4−(5\*2)/( 6+4/2)

* 12 – (10)/(10/2)
* 12 – 10/5

**Composite Functions and Inverses**

1. *f* (*x*)=*x*2+3 Find *f*(1) and *f*(2).

* f(1)=1^2+3
* f(1)=4
* f(2)=2^2+3
* f(2)=7

1. *f* (*x*)=*x*2+3 and *g*(*t*)=3sin(*t*) Find *f*(*g*(*t*)) and *g*(*f*(*x*))

* f(3sin(t))
* f(g(t)= (3x^2sin(t))+3
* g(x^2+3)
* g(f(x)= sin(x^2+3)

1. 3. *f* (*t*)=*t*3−3 and *g*(*t*)=3*et* Find *f*(*g*(*t*)) and *g*(*f*(*t*))

* f(3e^t)
* f(g(t) 3e^3-3
* g(t^3-3)
* g(f(t) = 3e(t^3-3)

1. Find the inverse of *f* (*x*)=3 *x*+4 . Show all steps.

* x= 3y+4
* 3y = x – 4
* y = x – 4 / 3

1. Find the inverse of *f* (*z*) = 3z – 5 / 6 . Show all steps.

* X = 3z-5 / 6
* X x 6 = 3z – 5
* 6x + 5 / 3 = z

**Sets and Logic**

1. Consider the sets A = {7, 8, 9, p, g} and B={5, 8, 12, 7, g} within the universe {c, 5, 6, 7, 8, 9, 12, 13, q , g, p}

Find *A*∪*B* and *A*∩*B*

Find \_*A* and \_*B*

AuB = 5, 7, 8, 9, 12, p, g)

AnB = 7, 8, g

\_A = 5, 12

\_B = 7, 9, p

1. Union is related to the logic function true/and? (elements of the sets that belong to the sets)
2. Intersections in logic functions is the operations on sets