Integrated Math 2
Functions Assessment

Name _____
Date _____ Block ____

You have 65 minutes. Calculators are permitted. Notes and books are permitted. Computers are not permitted. If you use your calculator to do something, make sure to show enough work so that I know what you were thinking. No work = no evidence for me of your understanding.

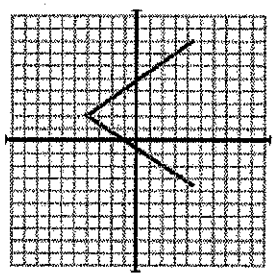
1) State whether the following are functions or just relations. Give a reason.

2 marks – K
2 marks – C

a) {(0,1),(-1,4),(2,3),(-2,4)}

Function, because each x value has only one output value

b)



no, because any given x value beyond $x \geq 4$ has 2 output values

2) State the domain & range of the following relations, using proper notation.

6 marks – K
3 marks – C

a) $f(x) = 3x - 1$

D: $\{x \in R\}$

R: $\{y \in R\}$

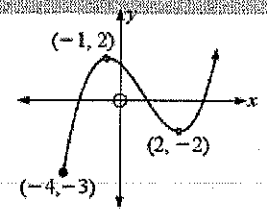
Domain: {x | }
Range: {y | }

OR

D: $\{x \in R \mid -\infty < x < \infty\}$

R: $\{y \in R \mid -\infty < y < \infty\}$

b)

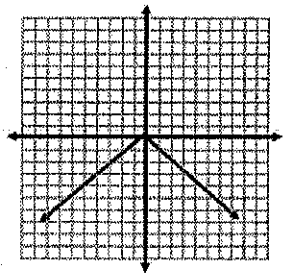


Domain: {x | }
Range: {y | }

$\{x \in R \mid x \geq -4\}$

$\{y \in R \mid y \geq -3\}$

c) *Assume each square represents one unit.*



Domain: {x | }
Range: {y | }

$\{x \in R\}$

or

$\{x \in R \mid -\infty < x < \infty\}$

$\{y \in R \mid y \leq 0\}$

3) Let $f(x)=3x^2-7$. 5 marks – K

a) Find $f(4)$.

$f(4)=3(4)^2-7$

$=3\cdot16-7$

$=48-7$

$=41$

$\therefore f(4)=41$

b) Find $f(x+2)$.

$f(x+2)=3(x+2)^2-7$

$=3(x+2)(x+2)-7$

$=3(x^2+4x+4)-7$

$=3x^2+12x+5$

4) Let $f(x)=3x-7$ and $g(x)=2x+5$. What value of x would make $f^{-1}(x)=g^{-1}(x)$? 2 marks – K
2 marks – T
1 mark – C

5) Functions f and g are defined as follows:
$f=\{(3,2),(5,1),(7,4),(9,3),(11,5)$ and $g=\{(1,3),(2,5),(3,5),(4,9),(5,7)\}$

a) Find $f(3)$. 1 mark – T

$f(3)\rightarrow$ look at pt $(3,2)$

$f(3)=2$

b) Find $g^{-1}(3)$. 1 mark – T

c) Is $g^{-1}(x)$ a function. 1 mark – T

d) Solve $f(x)=4$. 1 mark – T

$f(x)=4$ look at point $(7,4)$

$\uparrow$

$4=4$

$f(7)=4$ so $x=7$