**Functions Review - worksheet**

1. Write these solutions as an interval or a set of values.

2. Write as a set of values
a) $\left[5;10\right]$ b) $[2;3)$

c) $(-3;5]$ d) $(3;\infty )$

1. Write as an interval.
a) $x<-3$ b) $x\leq 2$

c) $x>5$ d) $x\geq -1$

e) $-3\leq x\leq 5$ f) $1\leq x<3$
2. $f\left(x\right)=-5x+10$, determine:
a) $f(3)$

b) the value of *x* for which $f\left(x\right)=-16$.
3. Determine what the dependent and independent variables are:
a) Volume of a sphere: $V=\frac{4}{3}πr^{3}$

b) At the theatre, the price paid P and the number of tickets bought n.
4. Determine the domain of the following relation: {(8 ;10) ; (5 ;7 ) ; (9 ;-11) ; (6 ;-8)}
5. Determine :



Domain :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Range :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

$f\left(0\right)= $\_\_\_\_\_\_\_\_\_ $f(-2)$ = \_\_\_\_\_\_\_\_

Determine $x $so that $f\left(x\right)=0 $: \_\_\_\_\_\_\_\_\_

Determine $x$ so that $f\left(x\right)=8 $: \_\_\_\_\_\_\_\_\_

1. Determine Domain, Range and if it’s a function :
a) b)

 

 c) d)

  

1. Fill the tables of values :

a) b)
 

a)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *x* | -3 | 0 | 1 |  |
| *y* |  |  |  | -1 |

b)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *x* | -1 | 0 |  |  |
| *y* |  |  | 1 | 6 |

What are the intercepts ? (determine graphically, and approximate if need be)

1. Determine the following values for *f*:
 

$f\left(0\right)=$ *x* such that $f\left(x\right)=-2$

$f\left(1\right)=$ *x* such that $f\left(x\right)=8$

1. Determine the following values for *f*:

 

$f\left(0\right)=$ *x* such that $f\left(x\right)=0$

$f\left(-1\right)=$ *x* such that $f\left(x\right)=-5$

1. Graph the following functions and determine algebraically their intersects:

 a) $f\left(x\right)=-4x+5$



b) $y=2\sqrt{x^{2}-9}$



c) $y=x^{2}-2x-8$

