# Functions Worksheet 1 



Fig 1


Fig 2

1. Given the graph of function $f(x)$ in Fig 1 , find the intervals where $f(x)$ is increasing/decreasing.
2. Referring to the function $f(x)$ in Fig 1 , find the $x$ and $y$ intercepts of the function.
3. Give an equation of a function for which $y>0$ for all values of $x$.
4. Find the equation of a parabola with $x$-intercepts at $(-1,0)$ and $(3,0)$ and $y$-intercept at $(0,-1)$.
5. Find the period of the function $g(x)=$ $\cos \left(t^{2}-7 \pi\right) ?$
6. Describe the end behaviour of $f(x)=$ $x^{3}-2 x^{2}-8 x$.
7. Find the maxima/minima of the function $f(x)=5 x^{2}+7 x+15$.
8. Find the intercepts and asymptote of the function $f(x)=\frac{1}{2 x}-5$ for $x>0$.
9. Plot the function in the grid provided above (Fig 2).
10. Find the axis of symmetry of $f(x)=$ $-6 x^{2}+7 x+5$.
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