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Function Worksheets 8th Grade

1) Find $f(0)$ if the function $f(x) = 8x$.

2) Find $f(4)$ if the function $f(x) = (2x)(2x - 2)(2x - 4)$.

3) Find the value of the function $f(x) = \frac{x+3}{2x}$ when $x = 3$.

4) The following table shows the different outputs against different inputs. Given that the input variable and the output variable have a linear relation.

x	1	2	4	11	24
f(x)	2	4	8	22	48

(a) Find the function $f(x)$ describing the input and the output.

(b) Using this function, find the value of $f(7)$.

5) Write a function $f(x)$ whose output is the sum of the one third of the input and square root of the input. Also, find the value of $f(9)$.

6) Given the base of the parallelogram is 8 units. Find the area function $A(h)$ of the triangle in terms of height (h). Find the area of the parallelogram for $h = 2$ units.

7) Find the volume $V(5)$ of an object whose volume is given by $V(x) = 3x^2 + 5x^3 + 2$ where x is one of the parameters of the object.

8) An object is travelling from point A to point B for time **t**. If the distance travelled by the object is given by the function $s(t) = t^3 + 2t^2 + 5t$ where $s(t)$ is the distance travelled after time **t** and its units are in km. Find the distance travelled by the object for $t = 2$ secs.

9) Identify whether the following function is linear or nonlinear from the table for the following points.

x	1	2	3	4	7
y	3	5	7	9	15

10) The functions $g(x)$ and $h(x)$ are shown in the table below against input values (x).

x	1	3	4	7	10
$g(x)$	2	4	8	10	12
$h(x)$	2	3	4	5	6

Find the points as per table for which $g(x)$ and $h(x)$ intersect.

11) Given that $f(x) = 10x + 5$. Find the value of x for which $f(x) = 0$.

12) $f(x)$ is a cubic function whose roots are 2, 4 and 6. Find $f(x)$ and also find the value of $f(8)$.

13) Given the function $f(x) = f(x - 1) + f(x - 2)$ for $x > 2$. Given that $f(1) = f(2) = 1$. Find the value of $f(5)$.

14) Find the function $f(x)$ if $f(x) = g(x)^2 + h(x)^2 + 2 g(x) h(x)$. Given $g(x) = x + 1$ and $h(x) = x - 1$.

15) Find the function $f(x)$ if $f(x) = g(x)^2 + h(x)$. Given $g(x) = x + 1$ and $h(x) = 2x + 1$. Also find $f(10) - f(2)$.



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**ANSWERS**

1) $f(3) = 14$	2) $f(4) = 6$	3) $f(3) = 2$
4) $f(x) = 6x + 2$ $f(10) = 62$	5) $f(x) = x^3 + x$, $f(4) = 66$	6) $A(h) = 2h$, $A(5) = 10 \text{ units}^2$
7) $V(10) = 230 \text{ units}^3$	8) $s(2) = 29 \text{ km}$	9) $f(x)$ is not linear.
10) No	11) $x = -2$	12) $f(x) = (x - 2)(x - 3)(x - 4)$, $f(2) = 0$
13) $f(6) = 8$	14) $x = y - 5$, for $y=5$, $x = 0$	15) $f(x) = 2x + 5$, $f(x) - g(x) = 2$

FUN FACT

- An easy trick to remember the order of PEMDAS is "Please Excuse My Dear Aunt Sally".
- Many mnemonics following order of operations are used along with PEMDAS worldwide, like BODMAS, BEDMAS, and BIDMAS.

