

1. If $y = 2x^4$, is y and function of x ? Explain why or why not.

2. If $y^2 = 2x^4$, is y and function of x ? Explain why or why not.

3. Determine whether the relations defined by the following tables are functions. Explain your answer.

(a).

x	2	3	5	8	10
y	-1	2	3	2	4

(b).

x	2	3	2	4	5
y	-1	1	3	5	7

4. If $f(x) = 2x^2 - 3$, find the following

(a). $f(0)$

(b). $f(-2)$

(c). $f\left(\frac{1}{2}\right)$

5. If $s(t) = 8 - t^3$, find the following

(a). $s(1)$

(b). $s(3)$

(c). $s(1) + s(3)$

(d). $s(1 + 3) = s(4)$

6. If $g(x) = x - \frac{3}{x^2}$, find the following

(a). $g(1)$

(b). $g(-1)$

(c). $g\left(\frac{1}{3}\right)$

7. If $f(x) = x^2 + 4$,

(a). Find $f(1)$, $f(3)$, and $f(1 + 3)$. Does $f(1 + 3) = f(1) + f(3)$?

(b). Find $f(x)$, $f(h)$, and $f(x + h)$. Does $f(x + h) = f(x) + f(h)$?

(c). Find and simplify $\frac{f(x + h) - f(x)}{h}$.

8. If $f(x) = 2x - 3x^2$,

(a). Find and simplify $f(x + h)$

(b). Find and simplify $\frac{f(x + h) - f(x)}{h}$