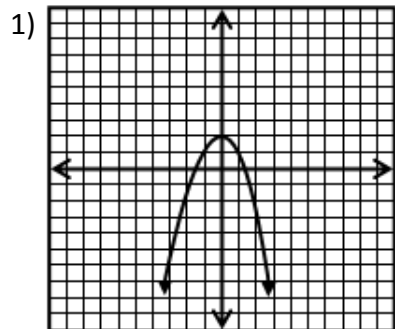
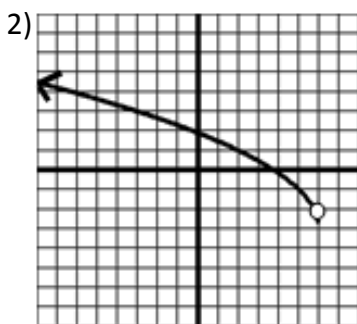


State the domain and range using interval notation.



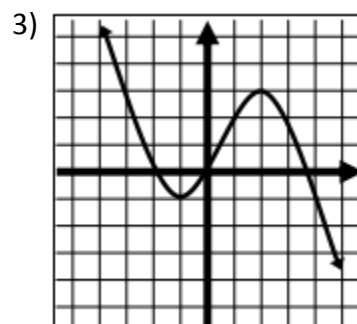
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Range: _____



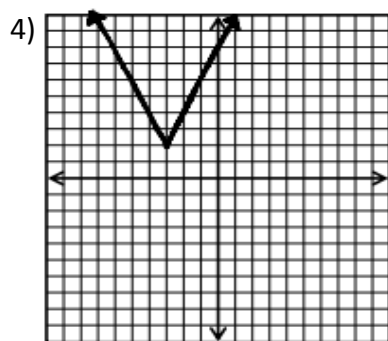
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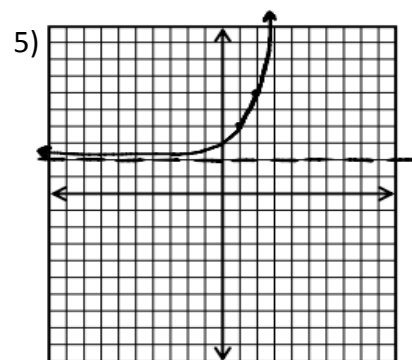
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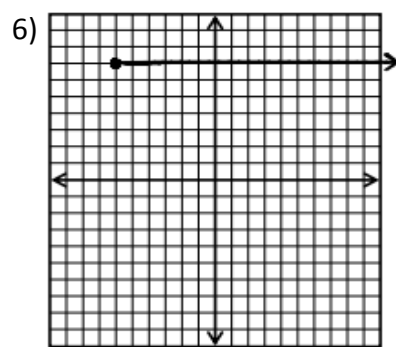
Domain: _____

Range: _____



Domain: _____

Range: _____



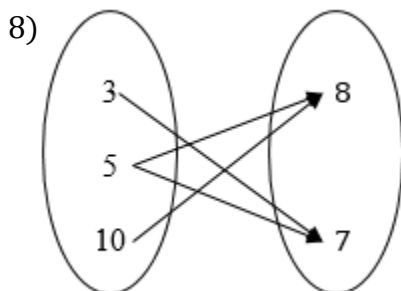
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Range: _____

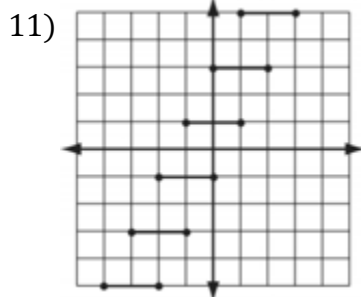
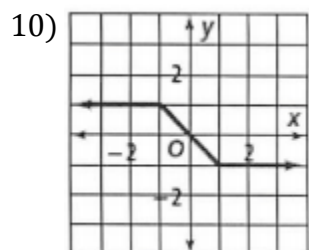
Determine whether each of the following is a function.

7)

x	$f(x)$
3	3
4	-1
-5	6
-3	-6
5	0



9) $\{(2, 3), (4, -1), (6, -3), (8, -5)\}$



12) $\{(1, 0), (1, 4), (1, 7), (1, 9)\}$

Identify the Rate of Change in each of the representations below.

13) $(1, 4), (3, -5)$

14) $f(5) = 17$ and $f(8) = 29$

15) $h(x) = 3x + 1$

16) $f(1) = 3, f(n) = f(n - 1) + 7$

17) $f(x) = x^2 - 1$ on the interval $[2, 4]$

18) $g(x) = 2^x$ on the interval $[0, 3]$

19) Here are the first four figures in a growing pattern.

Figure 1



Figure 2



Figure 3

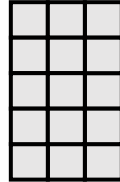
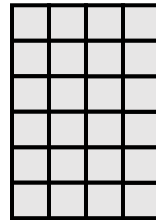


Figure 4



- a) Write a **recursive rule** for finding the **total area** of the **nth** figure in the pattern.
- b) Write an **explicit rule** for finding the **total area** of the **nth** figure in the pattern.
- c) Write a **recursive rule** for finding the **perimeter** of the **nth** figure in the pattern.
- d) Write an **explicit rule** for finding the **perimeter** of the **nth** figure in the pattern.

20) Here are the first four figures in a growing pattern.

Figure 1

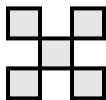


Figure 2

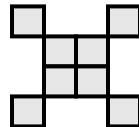
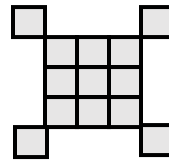


Figure 3



- a) Write a **recursive rule** for finding the **number of blocks in** the **nth** figure.
- b) Write an **explicit rule** for finding the **number of blocks in** of the **nth** figure.

21) Function Type:

x	$f(x)$
1	2
2	6
3	12
4	20

Recursive Rule:

Explicit Rule:

22) Function Type:

x	$f(x)$
-2	5
-1	8
1	14
2	17

Recursive Rule:

Explicit Rule:

23) Function Type:

x	$f(x)$
-1	$\frac{1}{9}$
0	$\frac{1}{3}$
1	1
2	3

Recursive Rule:

Explicit Rule:

24) Function Type:

x	$f(x)$
1	6
2	9
3	14
4	21

Recursive Rule:

Explicit Rule:

Given the following functions determine the following operations.

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

$$g(x) = 2x - 5$$

$$h(x) = 4x^3 - 5x^2 + 1$$

$$m(x) = -x^2 + 3x - 6$$

$$t(x) = 5x + 2$$

$$d(x) = x^2 + 4x - 8$$

25) $h(x) + g(x)$

26) $g(x) \cdot t(x)$

27) $d(x) - f(x)$

28) $g(x) \cdot d(x)$

29) $d(x) - m(x)$

30) $3g(x) - 4t(x)$

Simplify & Classify.

31) $(x - 4)^2$

32) $4x(x - 3y) - 5x(2x^2 - 5y)$

33) $\frac{2x^8y^5}{8x^5y^4}$

35) $x^2 \cdot x^{-5} \cdot x^3$

36) $5(x - 1) + (x - 5) - 2$

37) Determine the GCF of $21a^5bc^3$ and $28a^3c$

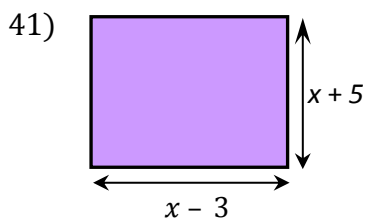
Expand:

38) $2(x + 1)^6$

39) $(x + 2y)^4$

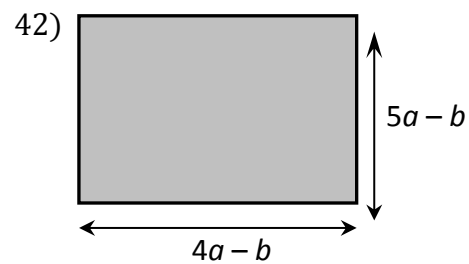
40) $(3x - 5)^3$

Find algebraic expressions for the perimeter and area of these rectangles.



Perimeter: _____

Area: _____



Perimeter: _____

Area: _____