

Module 1 Test Day

Get out your review, we will check answers and go over any questions shortly.

Directions: Show ALL work and make sure to write clearly and graph your functions neatly and label appropriately.

Identify the following patterns as linear, exponential, or quadratic.

1. $f(x) = \frac{2x-1}{4}$

linear

2. $f(x) = 4 \cdot 3^{x-1}$

exponential

3. $f(x) = 3x^2 + 10$

quadratic

4.

x	f(x)
1	5
2	10
3	17
4	26
5	37

} +5 } +2
 } +7 } +2
 } +9 } +2
 } +11 } +2

quadratic

5.

x	f(x)
1	-5
2	-2
3	1
4	4
5	7

} +3
 } +3
 } +3
 } +3

linear

6.

x	f(x)
1	12
2	36
3	108
4	324
5	972

} *3
 } *3

exponential

Find the slope or rate of change for each line below. Slope formula: $m = \frac{y_2 - y_1}{x_2 - x_1}$.

7. $f(x) = -2x + 5$

-2

8. \leftrightarrow_{AB} when A(9,-2) and B(-3,6)

$\frac{6 - (-2)}{-3 - 9} = \frac{8}{-12} = -\frac{2}{3}$

9.

x	f(x)
2	7
3	12
4	17

} +5
 } +5

5

Simplify the following expressions.

10. $(x + 7) + (2x - 3)$

11. $(2x + 1) + (2x - 4)$

12. $3(x + 4) - (x - 1)$

Find the slope or rate of change for each line below. Slope formula: $m = \frac{y_2 - y_1}{x_2 - x_1}$.

7. $f(x) = -2x + 5$

-2

8. \overleftrightarrow{AB} when $A(9, -2)$ and $B(-3, 6)$

$\frac{6 - (-2)}{-3 - 9} = \frac{8}{-12} = -\frac{2}{3}$

9.

x	f(x)
2	7
3	12
4	17

5

Simplify the following expressions.

10. $(x + 7) + (2x - 3)$

$3x + 4$

11. $(2x + 1) \cdot (3x - 4)$

$6x^2 - 8x + 3x - 4$
 $6x^2 - 5x - 4$

12. $3(x + 1)(x - 4)$

$3(x^2 - 3x - 4)$
 $3x^2 - 9x - 12$

13. Find $f(8)$ given that $f(x) = 7x - 3$.

$f(8) = 7 \cdot 8 - 3$
 $= 56 - 3$
 $= 53$

14. Find $p(0.5)$ when $p(x) = x^2 - 5$.

$p(0.5) = (0.5)^2 - 5$
 $p(0.5) = -4.9975$

15. Recursive equation:

x	0	1	2	3	4	5
y	3	7	11	15	19	23

+4

previous +4
 $f(x) = f(x-1) + 4$

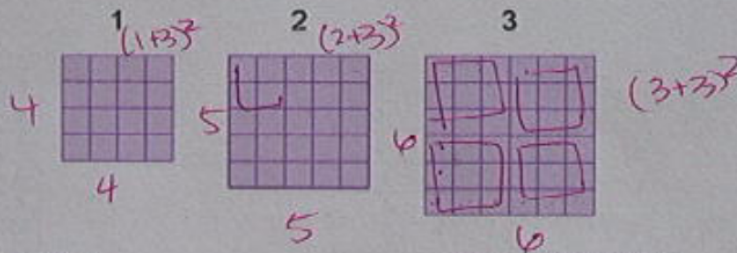
16. Explicit Equation:

x	0	1	2	3	4	5
y	3	7	11	15	19	23

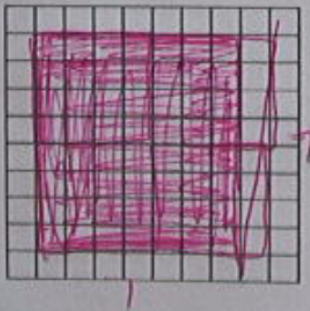
+4 +4

$$f(x) = 4x + 3$$

Draw the next term in the pattern below and write an explicit equation for it.



17. Draw the fourth term:



18. Explicit equation:

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