

Module 2 Review

Match each equation on the left with its correct form on the right.

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|---|-------------------------------------|
| <u>C</u> 1. $f(x) = -4x + 3$ | a. Point - Slope Form |
| <u>d</u> 2. $f(1) = 3, f(n) = f(n - 1) + 4$ | b. Slope |
| <u>g</u> 3. $f(x) = 4(3^{x-1})$ | c. Slope-Intercept |
| <u>B</u> 4. $m = \frac{y_2 - y_1}{x_2 - x_1}$ | d. Linear Recursive |
| <u>F</u> 5. $f(1) = 4, f(n) = 3f(n - 1)$ | e. Linear Explicit |
| <u>A</u> 6. $y - 3 = 2(x + 4)$ | f. Exponential Recursive |
| <u>E</u> 7. $f(x) = 4(x - 1) + 3$ | g. Exponential Explicit |

8. Find the rate of change for the table below.

Time (min)	Distance (m)
x	y
0	88
2	44
3	22
5	-22

$$44 - 88 = \frac{-44}{2} = -22 \text{ m/min}$$

9. Write an explicit equation for the table. Is it linear, exponential or neither?

Month	\$
0	1
1	2
2	4
3	8

exp

$$y = 1 \cdot 2^x$$

10. Given the following two points: (-10, -5) and (-8, 7)

a) Find the slope $\frac{7 - (-5)}{-8 - (-10)} = \frac{12}{2} = 6$

b) Find point - slope form $y = 6(x + 10) - 5$

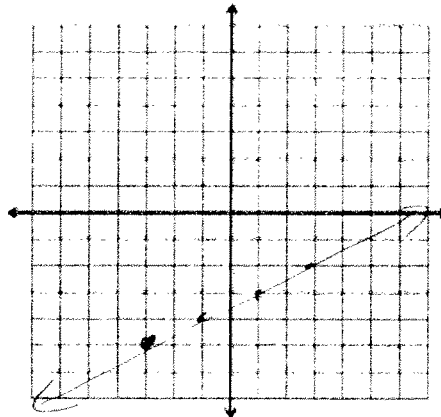
c) Simplify into slope-intercept form $y = 6x + 60 - 5$
 $y = 6x + 55$

11. Given $y = \frac{1}{2}(x + 3) - 5$

a) Describe in words how the line is shifted from the origin.

left 3 down 5

b) Graph $y = \frac{1}{2}(x + 3) - 5$



12. My grandfather has a golf ball collection of 1,200 golf balls. Each Saturday he goes to various shops and yard sales to add 50 new golf balls to his collection. How many golf balls will he have after 14 weeks? Is this situation discrete or continuous and why?

discrete

$$y = 50x + 1200$$

$$= 50(14) + 1200$$

$$\begin{array}{r} 214 \\ 50 \\ \hline 700 \end{array}$$

1900 golf balls

13. The mold on a piece of bread currently covers an area of 2 mm² on the bread. The area of mold on the bread triples every day. Write an explicit equation representing this situation. Is this situation discrete or continuous and why?

1	2	3	$y = 2(3)^{x-1}$
2	6		
3	12		

or $y = 2(3)^x$

Simplify

14. $7 \times 3 + 4$
25

15. $3^2 + 18 \div 9$
 $9 + 2 = 11$

16. $5 \times 8 \div 10 + 4$
 $40 \div 10 + 4$
 $4 + 4 = 8$

Simplify

17. $10a + 7b - 4a + 3b + c$
 $6a + 10b + c$

18. $-3n + 8 - 7 + 6n$
 $3n + 1$

Solve each equation. Show all work!

19. $3x - 7 = 11$
 $3x = 18$
 $x = 6$

20. $\frac{3x-2}{5} = 2$
 $3x - 2 = 10$
 $3x = 12$
 $x = 4$

21. $\frac{5x}{3} + 7 = 2$
 $\frac{5x}{3} = -5$
 $5x = -15$
 $x = -3$

7.) Use the given table to answer the following:

- a.) Find the rate of change (Slope), label it.
 b.) Is it linear or exponential, how do you know?

4 m/min
 linear add.

Time (min)	Distance (m)
x	y
0	22
2	30
6	46
7	50

c.) Write an explicit equation for the table.

$$y = 4x + 22$$

8.) Use the given table to answer the following:

- a.) Find the rate of change (Slope), label it.
 b.) Is it linear or exponential, how do you know?

Time (min)	Temp(degrees)
x	y
0	18
4	-9
5	-15
7	-27

c.) Write an explicit equation for the table.

$\frac{0}{1} \mid 18$
 $\frac{2}{1} \mid -2$
 $\frac{3}{1} \mid 0$
 $\frac{4}{1} \mid -6$
 $\frac{5}{1}$
 27
 $-15 + 9$
 -6
 $-27 + 15$
 -12
 6

8.) Given the following table.

x	y
1	10
2	50 $\times 5$
3	250
4	1250

a.) Is it linear or exponential, how do you know?

exp $\times 5$

b.) Write an explicit equation for the table.

$$y = 2(5)^x$$

$$y = 10(5)^{x-1}$$

9.) Given the following table.

x	y
1	2
2	8 $\times 4$
3	32
4	128

a.) Is it linear or exponential, how do you know?

exp $\times 4$

b.) Write an explicit equation for the table.

$$y = 2(4)^{x-1}$$

$$y = \frac{1}{2}(4)^x$$

Solve the following equations.

10.) $7x + 10 = 52 - 7x$

$$14x = 42$$

$$x = 3$$

11.) $\frac{4x}{5} + 11 = -5$

$$\frac{4x}{5} = -16$$

$$4x = -80$$

$$x = -20$$

12.) $\frac{4x+11}{5} = -5$

$$4x + 11 = -25$$

$$4x = -36$$

$$x = -9$$