

1. The table shows the cost of ordering a pizza for different amounts of pizza.

Number of Cards	Total Cost(\$)
1	13
2	21
3	29
4	37

Construct an equation that relates the cost of ordering a pizza to the number of pizzas

2. State the x - and y -intercepts of the linear equation below:

$$2x + 3y = 24$$

*you need two coordinate points
($x, 0$) and ($0, y$)

3. Which two points form a line that has a slope of -4 ?

- $A(5, 2), B(1, 3)$
- $C(2, 5), D(3, 1)$
- $E(0, 1), F(2, 7)$
- $G(1, 2), H(4, 7)$

4. Evaluate the expression. Express the result in scientific notation:

$$\frac{9.45 \times 10^{10}}{1.5 \times 10^6}$$

5. Write an equation shows the following relationship?

Four less than five times a number is equal to 11.

6. Solve the equation:

$$8(3a + 6) = 9(2a - 4)$$

7. Write an equation in point-slope form and slope-intercept form for the line:

Passes through $(3, 4)$ and $(5, -4)$

8. Which linear function has the steepest slope?

- $y = \frac{2}{3}x + 6$
- $y = 3x - 7$
- $y = -7x + 2$
- $y = -\frac{4}{5}x + 1$

9. Write an expression that is equivalent to the expression below (use exponents):

$$r \cdot s \cdot r \cdot r \cdot s \cdot s \cdot r \cdot r$$

10. Solve the system of equations graphically:

$$\begin{aligned} y &= x - 1 \\ y &= 2x - 2 \end{aligned}$$

11. The area of the Indian ocean is 26,500,000. What is this number written in scientific notation?

12. A group of 169 students needs to be seated in a square formation for a yearbook photo. How many students should be in each row?

13. What is the range of the function shown in the table?

x	y
8	5
-6	-9
2	5
0	-18

14. Which value is equivalent to 5^{-3} ?

- a. $\frac{1}{125}$
- b. $-\frac{1}{125}$
- c. -125
- d. 15

15. Simplify:

$$(11c^4)^3$$

16. Solve the system of equations algebraically:

$$y = 4x + 45$$

$$y = 4x$$

*Write your answer as a coordinate point (x, y) *

17. What are the slope and y -intercept of the linear equation below?

$$y = 4x - 8$$

18. What is the slope of the line that passes through $E(1, 2)$ and $F(4, 7)$?

19. Which point on the number line shows $\sqrt{38}$?



20. What is the solution to the equation below?

$$15 - \frac{w}{4} = 28$$

- a. 52
- b. 43
- c. -52
- d. -3.25

21. Which of the following does not represent a rational number?

- a. -45
- b. $\frac{14}{53}$
- c. 12
- d. $\sqrt{35}$

22. Write the number in standard form:

$$7.8 \times 10^{-4}$$

23. Solve the equation. Check your work.

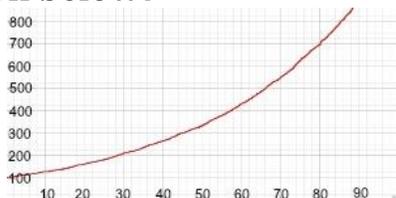
$$-\frac{27}{25}x = -\frac{9}{5}$$

24. The table shows how much Tricia earns for mowing various numbers of lawns.

Lawns mowed, x	Earnings (\$), y
3	\$19.50
6	\$39.00
9	\$58.50
12	\$78.00

Describe the constant rate of change.

25. Which term describes the function shown below?



- a. Quadratic
- b. Linear
- c. Constant
- d. Nonlinear

26. Liam is reading a 254-page book for school. He can read 40 pages in one hour. When reading tonight he started on page 63. Write an equation to determine the number of hours it would take him to finish the book.

27. Pinocchio's nose grows every time he lies. The total length of his nose after 3, 4, 5, and 6 lies respectively were 5.5, 7, 8.5, and 10 inches long. How long is Pinocchio's nose before he started lying?

28. The slope of a line is $-\frac{2}{3}$ and the y -intercept is $(0, 7)$. What is the equation of the line in slope-intercept form?

29. Which of the following symbols results in a true number sentence when placed in the blank?

$$\sqrt{13.56} \underline{\hspace{1cm}} 3.8$$

- a. >
- b. <
- c. =
- d. x

30. Determine whether the table represents a *linear* or a *nonlinear* function.

x	5	10	15	20
y	13	28	43	58

- a. Nonlinear; as x increases by 5, y increases by a different amount each time. The rate of change is not constant, so this function is nonlinear
- b. Linear; as x increases by 5, y increases by 13 each time. The rate of change is constant, so this function is linear.
- c. Linear; as x increases by 5, y triples each time. The rate of change is constant, so this function is linear.
- d. Nonlinear; as x increases by 5, y increases by 13 each time. The rate of change is constant, so this function is linear.

31. Graph the function. Use the x - values $-2, -1, 0, 1,$ and 2

$$y = 3x + 3$$

32. Graph the function. Use the x - values $-2, -1, 0, 1,$ and $2.$

$$y = 2x^2 - 4$$

33. Solve the system of equations algebraically:

$$2x + 4y = 12$$

$$y = 4x - 2$$

*Write your answer as a coordinate point (x, y) *

34. Evaluate the expression. Express the result in scientific notation:

$$(7.6 \times 10^4)(5.6 \times 10^8)$$

35. State the x - and y -intercepts of the linear equation below:

$$9x - 18y = 9$$

*you need two coordinate points $(x, 0)$ and $(0, y)$ *

36. What are the slope and y -intercept of the linear equation below? Then graph the equation.

$$y = \frac{2}{3}x + 3$$