CV | Algebra II

Mid Chapter 2 Review

NAME Key

1. **State the domain and range of the relation {(-3,2), (4,1), (0,3), (5,-2), (2,7)}. Then determine whether the relation is a function.**

D = {-3, 0, 2, 4, 5}

R = {-2, 1, 2, 3, 7}

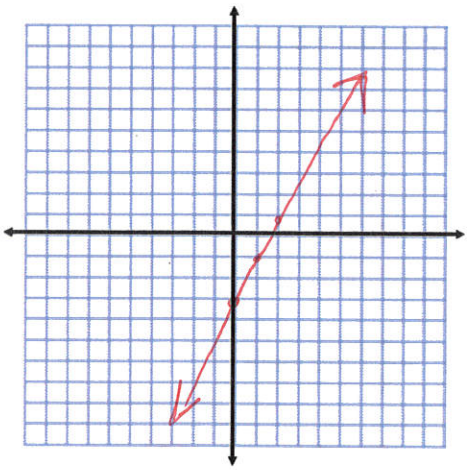
is a Function

2. **Graph y = 2x – 3 and determine whether the equation is a function, is one-to-one, onto, both, or neither. State whether it is discrete or continuous.**

is a function

Both one-to-one and onto

Continuous



Given $f(x) = 3x^2 - 2x + 7$, find each value.

3. f(-2)

-13

4. f(2y)

$24y^3 - 4y + 7$

5. f(1.4)

12.432

6. State whether $f(x) = 2x^2 - 9$ is a linear function. Explain.

No; it is a function, but it is not linear. x^2 makes a parabola

7. The daily pricing for renting a mid-sized car is given by the function f(x) = 0.35x + 49, where f(x) is the total rental price for a car driven x miles. Find the rental cost for a car driven 250 miles.

$136.50

Write each equation in standard form. Identify A, B, and C.

8. y = -6x + 5

$6x + y = 5$

A = 6
B = 1
C = 5

9. y = 10x

$10x - y = 0$

A = 10
B = -1
C = 0

10. $-\frac{5}{8}x = 2y + 11$

$5x + 16y = -88$

A = 5
B = 16
C = -88

11. 0.5x = 3

$x = 6$

A = 1
B = 0
C = 6

Find the x-intercept and the y-intercept of the graph of each equation. Then graph the equation using the intercepts.

12. 4x – 3y + 12 = 0

$4x - 3y = -12$

x-int

$4x - 3(0) = -12$

$4x = -12$

$x = -3$

(-3, 0)

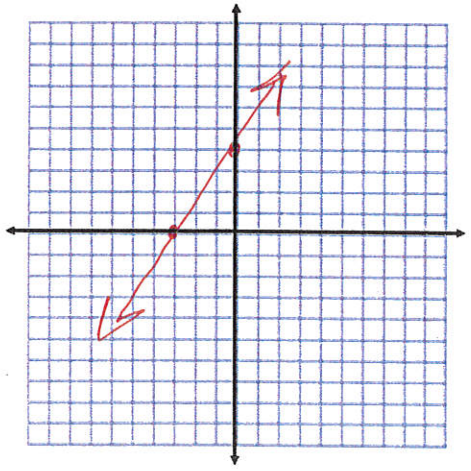
y-int

$4(0) - 3y = -12$

$-3y = -12$

$y = 4$

(0, 4)



13. $10 - x = 2y$

$10 = x + 2y$

x-int

$x + 2(0) = 10$

$x = 10$

(10, 0)

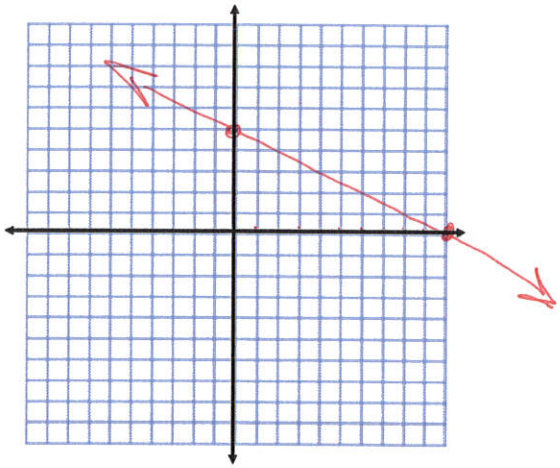
y-int

$0 + 2y = 10$

$2y = 10$

$y = 5$

(0, 5)



14. The table shows the distance traveled by a car after each time given in minutes. Find the rate of change in distance for the car.

Time (min)	Distance (mi)
15	20
30	40
45	60
60	80
75	100

1.33 mi/min

Find the slope of the line that passes through each pair of points. Express as a fraction in simplest form.

15. (-2, 6), (1, 15)

3

16. (3, 5), (7, 15)

$\frac{5}{2}$

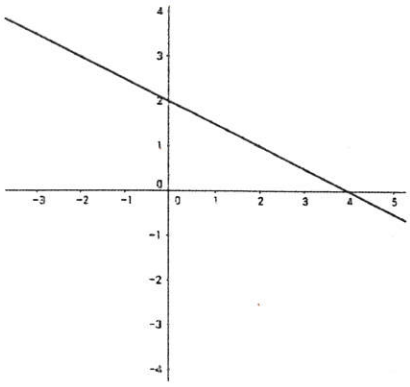
17. (4, 8), (4, -3)

undefined

18. (-2.5, 4), (1.5, -2)

$-\frac{3}{2}$

19. Find the slope of the line shown.



$-\frac{1}{2}$

Write an equation for the line that satisfies each set of conditions.

20. Slope 2/3, passes through (3, -4)

$2x - 3y = 18$

or

$y = \frac{2}{3}x - 6$

21. Slope -2.5, passes through (1,2)

$y = -2.5x + 4.5$

Write an equation of the line through each set of points.

22. (-2, 3), (4, 1)

$y = -\frac{1}{3}x + \frac{7}{3}$

23. (4.2, 3.6), (1.8, -1.2)

$y = 2x - 4.8$

24. Each week, Jaya earns $32 plus $0.25 for each newspaper she delivers. Write an equation that can be used to determine how much Jaya earns each week. How much will she earn during a week in which she delivers 240 papers?

#92

25. Jesse is a pizza delivery driver. Each day his employer gives him $20 plus $.50 for every pizza that he delivers.

a. Write an equation that can be used to determine how much Jesse earns each day if he delivers x pizzas.

$y = 0.5x + 20$

b. How much will he earn the day he delivers 20 pizzas?

#30

Solve each equation.

26. $|x+4| = 3$

$x+4 = 3$ or $x+4 = -3$

$x = -1$ or $x = -7$

27. $|3m+2| = 1$

$3m+2 = 1$ or $3m+2 = -1$

$3m = -1$ $\quad$ $3m = -3$

$m = -\frac{1}{3}$ $\quad$ $m = -1$

28. $|3x+2| = -4$

$\varnothing$ * you can never take the absolute value of something and get a negative answer