**Pro-Vision Academy Charter School**
**High School Math Distance Learning Plan**

# High School Math
# Distance Learning Plan
## Week of March 30th – April 3, 2020

**Algebra 1**
**(Suggested: 90 minutes of off-line activities)**
**Please contact Ms. Redd with any questions at kredd@pvacademy.org**

**TEKS: A.6A, A.7A,A.12A,A.12B**

**Monday**

**Define the following:** x-intercept, y-intercept, slope, domain, range

Part 1 – Identify Domains, Ranges, and Functions. Identify the domain and range of each relation given below.

1. {(2, 3), (-1, 5), (0, -1), (3, 5), (5, 0)}
Domain: _____ Range: _____

2. If f (x) = −4 x− 7, find...
a) f (3)
b) f (−7)

3. If f (x) = −3 x 2 − 2 x+ 1, find...
a) f (−4)
b) f (0)

4. When is a relation a function? What are some ways to tell if a relation is a function?
5. What is the domain of a function? What is the range of a function? Given a member of the domain, how do you find it's value in the range?

6. If f (x) = −3 x− 2, find...
a) f (0)
b) f (4)
c) f (−1)

# Pro-Vision Academy Charter School
## High School Math Distance Learning Plan

### Tuesday

Find the domain and range and decide if each of the following is a function:
1.) {(-2, 5), (3, 9), (5, 6), (-3, 9)}

2.) {(3, 8), (-4, 9), (-2, 3), (3, 1)}

3.) Which of the following relations is not a function?
A. {(–1, 4), (1, 6), (4, 10)}
B. {(–1, 2), (1, 3), (–1, 4)}
C. {(–1, 6), (4, 7), (5, 6)}
D. {(–1, 2), (1, 2), (3, 3)}

4.) Describe the difference between a relation and a function.

5.)
Relation: a _____ (or pairing) of _____ values with _____ values.

Domain: the set of _____ values Range: the set of _____ values.

Function: a special type of relation in which each _____ has EXACLY _____ _____ .

In other words, a function can NOT have any repeating x-values!

### Wednesday

Find the Domain and the Range of the following:

1.) (2, 5), (5, 11), (7, 15), (8, 17) Domain_____ Range_____
2.) (-2, -1), (-1, -3), (0, -5), (1, -7) Domain_____ Range_____
3.) (12, 1), (10, 3), (8, 5), (6, 7)
4.) (-4, -2), (-6, -3), (-8, -4), (-10, -5)

5.) (-5, -2), (-4, -3), (-5, -4), (3, 2)
Is this relation a function? Domain: _____

6.) (2, 4), (-2, 4), (0, 1), (-8, 4)
Is this relation a function? Range: _____

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## High School Math Distance Learning Plan

### Thursday

Vocabulary Review- Define the following:

Function, Linear, Non-linear, Domain Range, Vertical-line test, Relation, Parabola

### Friday

SPIRAL REVIEW: Simplify by combining like terms.

1. $2a + 15a + 3a$ _____
2. $7x + 19x + 13x$ _____
3. $5y + 13y + 10$ _____
4. $35x + 55x + 4$ _____
5. $37y + 10 + 15y$ _____
6. $26ab + 14ab$ _____
7. $12mn + 25mn$ _____
8. $3abc + 22abc$ _____
9. $7a + 6c + 9a + 15c$ _____
10. $14x + 7y + 19x + 15y$ _____

# Pro-Vision Academy Charter School

## High School Math Distance Learning Plan

**Geometry**
**(Suggested: 90 minutes of off-line activities)**
**Please contact Mr. Tabernilla with any questions at atabernilla@pvacademy.org**

### Monday

(Show your solutions)

Solve the following equations with variables on both sides:

a) 7- 8x = 4x-17 b) 24 -3m = 5m c) 20 + y = 4y - 7

### Tuesday

(Show your solutions)

Solve the following equations using the Distributive Property:

a) 7x + 2( x + 6) = 39 b) 2w + 3( w + 4) =27 c) 6x – 2( x -5 ) = 46

### Wednesday

(Show your solutions)

The Area of a Parallelogram is the product of a base and a corresponding height ( A = bh )

- a) If the Area = 20 $ft^2$ and base = 5.3ft Find the height ( h) ?
- b) If the base = 16 ft and height = 4.7ft Find the Area ( A ) ?
- c) If the Area = 15 $ft^2$ and height = 6.5ft Find the base ( b) ?

### Thursday

(Show your solutions)

The Area of a Triangle is one–half the product of a base and a corresponding height ( A = ½ bh)

a) If the Area = 35 $f^2t$ and base = 9ft Find the height (h) ?

b) If the base = 8.5 ft and height = 3.7ft Find the Area (A ) ?

c) If the Area = 29 $ft^2$ and height = 4.32ft Find the base (b) ?

# Pro-Vision Academy Charter School

## High School Math Distance Learning Plan

**Friday**

(Show your solutions)

1) A Parallelogram has an area of 153 square inches and a height of 17 inches. What is the length ( l ) of the base (b) ?

2) The base of the Triangle is twice of its height. The Area of the Triangle is 36 square inches. Find the base ( b) and height (h) ?

3) If Parallelogram ABCD is divided into two Triangles along diagonal AC. If you know the Area of the Parallelogram, how do you find the Area of the Triangle ABC?

**Digital Resources to support daily activities.**

1) For guidance of the Area of a Parallelogram: https://www.khanacademy.org/math /basic-geo-area-and

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## High School Math Distance Learning Plan

**Algebra 2**
**(Suggested: 90 minutes of off-line activities)**
**Please contact Mr. Tabernilla with any questions at atabernilla@pvacademy.org**

**Monday**

Simplify the following rational equations using proportions (show your solutions).

$\frac{x}{9} = \frac{7}{3}$ $\frac{20}{y} = \frac{5}{3}$ $\frac{7}{2} = \frac{21}{w}$ $\frac{4}{z} = \frac{20}{30}$

**Tuesday**

Simplify the following rational equations using cross-products (show your solutions).

$\frac{x - 5}{15} = \frac{4}{5}$ $\frac{6}{x + 4} = \frac{2}{3}$ $\frac{2+5x}{10} = \frac{3}{5}$

**Wednesday**

Simplify the following rational equations using cross multiplication (show your solutions).

$\frac{6}{x+4} = \frac{x}{2}$ $\frac{5x}{w-2} = \frac{w}{3}$ $\frac{2}{z+5} = \frac{z}{7}$

**Thursday**

Simplify the following rational equations using cross multiplying (show your solutions).

$\frac{3}{3x+1} = \frac{9}{4x+5}$ $\frac{5x}{x-3} = \frac{-4}{x+3}$

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## High School Math Distance Learning Plan

**Friday**

Solve each rational equation for all the values of x (show your solutions).

$\frac{x+3}{x+1} = \frac{15}{x+7}$ $\qquad$ $\frac{1}{x-6} = \frac{x}{-11x-6}$ $\qquad$ $\frac{x}{7} = \frac{2x-2}{3x+1}$

**Digital Resources to support daily activities.**

On how to simplify rational expressions using proportions or cross-products methods:
https://www.youtube.com/watch?v=unKSh6sPftI

On how to simplify rational expressions using cross multiplying methods:
https://www.youtube.com/watch?v=qzwkXPOxBS4

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## High School Math Distance Learning Plan

**Pre-Calculus**
**(Suggested: 90 minutes of off-line activities)**
**Please contact Mr. Tabernilla with any questions at atabernilla@pvacademy.org**

### Monday

Simplify the following rational equations using proportions (show your solutions).

$\frac{x}{9} = \frac{2}{3}$ $\frac{10}{y} = \frac{5}{3}$ $\frac{6}{2} = \frac{21}{w}$ $\frac{4}{z} = \frac{8}{10}$

### Tuesday

Simplify the following rational equations using cross-products (show your solutions).

$\frac{x - 5}{15} = \frac{4}{5}$ $\frac{6}{x + 4} = \frac{2}{3}$ $\frac{2+5x}{10} = \frac{3}{5}$

### Wednesday

Simplify the following rational equations using cross multiplying (show your solutions).

$\frac{6}{x+4} = \frac{x}{2}$ $\frac{5x}{w-2} = \frac{w}{3}$ $\frac{2}{z+5} = \frac{z}{7}$

# Pro-Vision Academy Charter School
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**Thursday**

(show your solutions)

The formula for finding the Distance ( d ) = $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ .

Find the distance between the Points $P_1$ and $P_2$

- $P_1$ ( 3. - 4 ) and $P_2$ ( 5, 4 )
- $P_1$ ( 0, 0 ) and $P_2$ ( 2, 1 )
- $P_1$ ( -1, 0 ) and $P_2$ ( 2, 4 )

**Friday**

(show your solutions)

**Problem Solving:**

The formula for finding the Distance

( d ) = $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$.

1) The coordinate plane represents a map. Each grid unit represents 20 miles. A retail company has warehouses at M (−70, 10) and N (50, 10). What is the distance of warehouse M to warehouse N? (Show your solutions).

2) The coordinate plane represents a map. Each grid unit represents 20 miles. A retail company has warehouse at and N (50, 10) and a store is located at P (50, -30). What is the distance of warehouse N to warehouse Plane P? (Show your solutions).

**Digital resources to support daily activities**

On how to “simplify” rational expressions using proportions or cross-products method:
https://www.youtube.com/watch?v=unKSh6sPftI

On how to “simplify” rational expressions using cross multiplying method:
https://www.youtube.com/watch?v=qzwkXPOxBS4

On how to find the distance using the formula for finding the Distance
( d ) = $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ method:
https://www.youtube.com/watch?v=oKpwFowbDhE