**Unit 3: Linear Equations and inequalities**

**Lesson 2: Graphs of Linear Equations Using TI 84**

Objectives:

* I can identify the solution for linear equations using TI-84.
* I can identify the intercepts of a linear equation using TI-84
* I can graph linear equations using TI-84
* I can solve linear equation in real life applications.

Agenda:

* Video
* Use your skills
* Use all your skills

Vocabulary:

* Linear equation, x,y coordinates, slope-intercept form, y-intercept, x-intercept, standard form, x-axis, y-axis,

Focus Questions:

1. How can I graph a linear equation using the TI 84?
2. How can I identify values, intercepts of linear equations using TI 84?

Web support:

- <https://www.youtube.com/watch?v=p3Cohshlw90>

* <https://www.youtube.com/watch?v=Kh5CRwdlWig>
* <https://www.youtube.com/watch?v=_zFbA1yti6E>

Homework: Worksheet 3-2

**Do Now**

1. Rewrite the following equations into slope y -intercept form. Sketch and identify the slope and the y-intercept for each.

|  |  |  |  |
| --- | --- | --- | --- |
| $$-\frac{4}{5}y+6=-x$$‘  |  | $$-2y+7=-x$$ |  |

**Intro to graphing:**

1. Answer the following questions for each equation:
2. Rewrite the equation in the slope-intercept form.
3. Fill in the table
4. Find the x and y intercepts
5. Graph the linear equation

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |
| --- | --- |
| x | y |
| -2 |  |
| -1 |  |
| 0 |  |
| 1 |  |
| 2 |  |

1. http://designblog.rietveldacademie.nl/wp-content/uploads/2011/05/xy-graph.bmp $y+4=-2x$

x-intercept: y-intercept: |
|

|  |  |
| --- | --- |
| x | y |
| -6 |  |
| -3 |  |
| 0 |  |
| 3 |  |
| 6 |  |

1. http://designblog.rietveldacademie.nl/wp-content/uploads/2011/05/xy-graph.bmp $ -\frac{3}{2}y=-6-x$

x-intercept: y-intercept: |

**When am I ever going to need this?**



1. Conner is running a 10-kilometer cross country race. Conner’s distance from the finish line after x minutes is represented by the equation

 12

 11

 10

 9

 8

 7

 6

 5

 4

 3

 2

 1

 $y=10-\frac{1}{4}x.$

1. Graph the linear equation.

Distance (kilometer)

1. What is Conner’s distance from the finish line after 20 minutes?
2. How many minutes will it take Conner to be 3 km away from the finish line?
3. How long does it take Conner to get to the finish line?

1. How long is the race?

 10 20 30 40

Time (minutes)

**Use All your Skills:**

1. Hans opened a video game store and pays the gaming companies $5.00 for each video game he purchases. He also pays $10 one time few for shipping and handling. The amount Hans pays is given by the equation$: y=5x+10$, where x in the number of video games purchased.

100

95

90

85

80

75

70

65

60

55

50

45

40

35

30

25

20

15

10

5

1. How much does Hans need to pay for 20 games?

Cost $

1. How many games can he purchase with $95?
2. Graph the linear equation.

3)Alyssa has $10 to buy markers for schools. The number of Expo (x) markers and the number of Crayola (y) markers that Alyssa can buy is represented by the linear equation $ 0.3x+0.2y=10$.

 50

 40

 30

 20

 10

1. Change the standard form of the equation to the slope –intercept form.

 Number of Crayola markers

1. Graph the linear equation.
2. If Allyssa has 22 Expo markers, how many Crayola markers does she have?
3. If Allyssa has 44 Crayola markers, how many Expo markers does she have?

 10 20 30

 Number of Expo markers

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Homework 3-2: Linear equations

1. Samantha goes to the grocery store x number of times to buy food. The amount of money that Samantha has left in her budget at the end of the month (y) is represented by $y=-50x+250$.

250

200

150

100

50

1. Graph the linear equation.
2. How much money does she has in her account after going shopping twice? Algebraically
3. How many times does she go shopping, if she has $50 in her budget? Algebraically
4. How many times can Samantha go shopping based on their budget? Algebraically

 1 2 3 4 5 6

 Number of months

2)The Ace Cell Phone Company charges a flat monthly fee of $22.00 for a cell phone and $.20 per minute for long distance calls.

1. Write a linear model that represents the total cost per month, C, and the number of minutes, m, of long distance calls you make.
2. What is the slope of the linear model? What does it represent in the context of this problem?
3. What is the y-intercept? What does it represent in the context of this problem?

Blast from the recent past:

Solve the following equations. If there are no solutions, indicate why, if there are more than one solution, make sur to state it.

1. 8x + 4(4x – 3) = 4(6x + 4) – 4
2. –**31** – **4x =** –**5** – **5(1 + 5x)**
3. 