

Unit 4 : Linear Relations
Exam Review

Determine the Equation from : Diagrams, Tables, Graphs and Word Problems

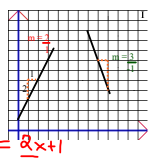
GENERAL EQUATION
 $y = mx + b$
(the letters y or x may be any letters)
(m and b are numbers)

Slope y-intercept

Total of something

m: is a number that represents slope

Slope = $\frac{\text{rise}}{\text{run}}$ When given a graph



$y = 2x + 1$

Constant change in a table

x	y
0	10
1	15
2	20
3	25

$m = 5$
 $y = 5x + 10$

Word Problem (a rate) Example: \$6 per student $m = 6$ Example) 5 m/sec $m = 5$

b: is the y intercept

ON A GRAPH (it is where your line crosses your Y-AXIS)


IN A CHART (the value of y at x = 0)

x	y
0	10
1	15
2	20
3	25

Word Problem (Your Starting cost/money...)

NOTE
Equations have equal signs
Expressions NO equal sign

Jan 18-8:13 PM



Ted is a hockey player who recently signed a contract with the Boston Bruins and received \$2 000 000 for a signing bonus. Ted will receive an additional \$25 000 for each game he plays. Write an equation that relates Ted's total earnings, E, to the number of games, g, he plays.

$E = 25000g + 2000000$

★ a)

b) How many games will it take to earn 3 million dollars?

★

★

★

★

★

★

$(3000000) - 2000000 = 25000$ ★ games

c) How much would Ted earn if he played 100 games?

★

★

★

★

He will earn ... for playing 100 games.

Jan 18-8:42 PM

Patterns



Figure 1



Figure 2



Figure 3

a) Complete a table that relates the figure number, f , to the number of stars, s .



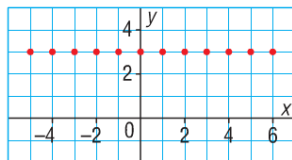
b) Write an expression for the number of stars.

c) Write an equation that relates the figure number, f , to the number of stars, s .

d) How many stars would appear in figure 17?

Jan 18-8:54 PM

Horizontal vs. Vertical

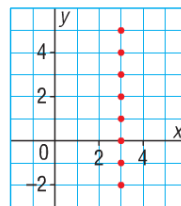
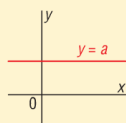


$y = 3$

no x

For every 'x' value y will always equal 3

The graph of the equation $y = a$, where a is a constant, is a horizontal line. Every point on the graph has a y -coordinate of a .

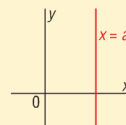


$x = 3$

no y

For every 'y' value x will always equal 3

The graph of the equation $x = a$, where a is a constant, is a vertical line. Every point on the graph has an x -coordinate of a .



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Nov 22-9:06 PM

Try these

For $n = 2$, solve for each of the following

1) $P = 5n + 6$

2) $K = 4n - 1$

3) $W = 10n - 5$

For $n = -5$, solve for each of the following

1) $P = 5n + 6$

2) $K = 4n - 1$

3) $W = 10n - 5$

Dec 1-9:08 AM

Equation

$$y = \left(\frac{\text{Change } y}{\text{Change } x} \right) ("x") \pm \#$$

$x \rightarrow$ independent

$y \rightarrow$ dependent

Nov 13-11:27 AM

Warm Up Grade 9

1) To attend the local fair the cost for admission is \$5.25. If you plan to go on rides it is an additional \$2.00 per ticket.

a) Create a table that shows the cost for up to 3 rides

Tickets, n	Cost, C

b) Write an equation that relates the cost, C in dollars, to the number of tickets, n, for a ride.

c) How many rides can a student go on for \$57.25?

d) You want to go on 12 rides, how much money do you need?

Dec 1-9:08 AM

Remember ME
Let's look at it again.


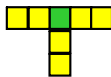
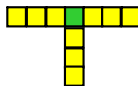




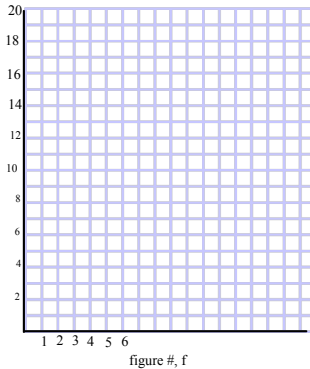
Figure 1

Figure 2

Figure 3

Figure #	# of Blocks
1	4
2	7
3	10
4	13
5	16
6	19

$3f + 1$



THUS

For figure f , the number of blocks will be $3f + 1$
If n is the number of blocks then the equation is: $n = 3f + 1$

What changes the value of n ???

So the value of depends on the value of .

Oct 6-1:01 PM

Dependent VS. Independent

If the equation is: $P = 2n + 4$

___ is the dependent variable

___ is the independent variable



Dependent variable is always plotted on vertical axis (y-axis) ↑

Independent variable is always plotted on the horizontal axis (x-axis) ←

Oct 7-11:54 PM

Concrete vs. Discrete

Discrete: Unconnected

Continuous: Connected

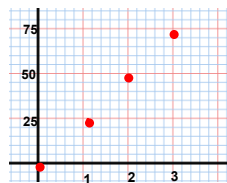


Cost of video games

Number of Video games	Cost, C(\$)
1	25
2	50
3	75

Can you buy 1.5 video games?

So would you connect the dots???

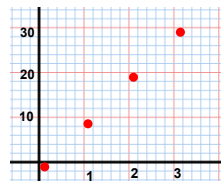


Babysitting Job

Number of Hours	Earnings, C(\$)
1	10
2	20
3	30

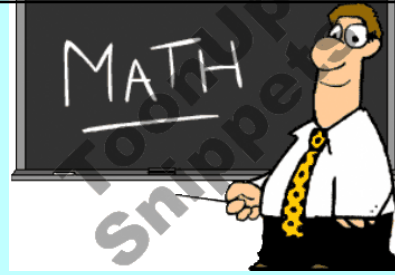
Can you work 1.5 hours?

So would you connect the dots???



Nov 9-8:09 PM

A relationship has the equation: $y = 7 - 2x$



a) Create a table of values for the relation for values -2 to 2.

x	y
-2	
-1	
0	
1	
2	

We have to do some work!

for $x = -2$

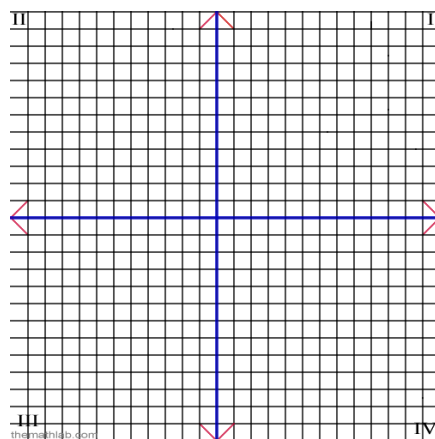
$y = \text{😊}$

Nov 9-8:06 PM

Choose Numbers that are easy to work with

$$y = \frac{2}{3}x + 1$$

x	y
-6	
-3	
0	
3	
6	



Nov 22-8:09 PM

Textbook Questions

Page 201-203

Questions: 1acdef, 2,4,5,8, 9ad,
10, 11, 12, 13, 15, 17

Page 204 Practice Test

All Questions

May 27-1:48 PM

Review Worksheet

Wordocument



PDF



Smart



Jan 18-9:08 PM



May 27-1:47 PM

Attachments

January_Exam_2011_Review_-_Unit_4.docx

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