M. Close

Alg I, Alg II, FOA

Quizlet

NAME_____

5 Written questions

1. to replace a variable with another number

_____

2. to be less or smaller; subtract

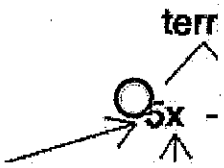
_____

3. find the value of, review

$$42 - 13 = n$$

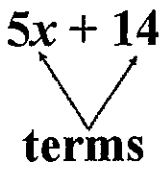
$$n = 29$$

_____

4. 

_____

5. numbers and expressions used in an equation or expression. They are separated by addition and subtraction.



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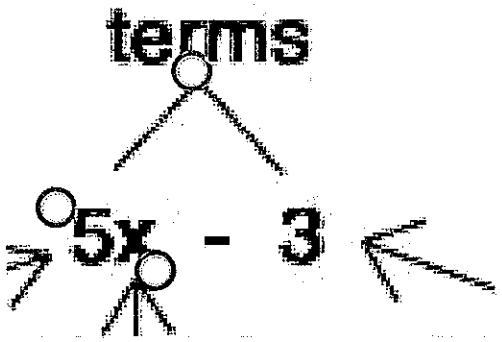
5 Multiple choice questions

1. constant



2. to add to; more

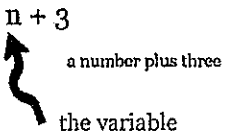
A. increased

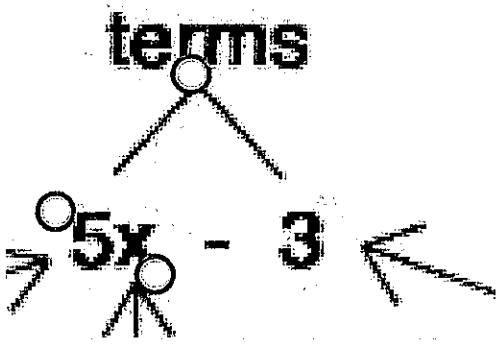
B. decreased

C. evaluate

D. expression

3. a letter used to represent a quantity that can change.



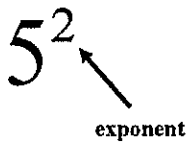


4. A mathematical phrase that contains operations, numbers, and/or variables.

$$3x + 2$$

A. constant
B. expression
C. coefficient
D. exponent

5. A mathematical notation indicating the number of times a quantity is multiplied by itself.



A. variable
B. constant
C. expression
D. exponent

Algebra Support Expressions Essential Vocabulary

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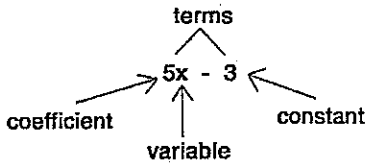
1. **coefficient**



a number multiplying a variable (the number in front of the variable)

2. **constant** a value that does not change does not have a variable with it

3. **decreased** to be less or smaller; subtract

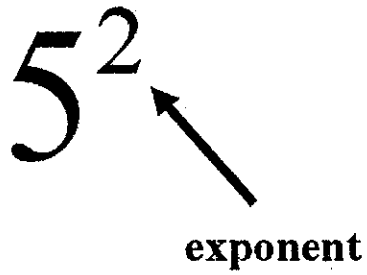
4. **evaluate**

$$42 - 13 = n$$

$$n = 29$$

find the value of, review

5. **exponent**



A mathematical notation indicating the number of times a quantity is multiplied by itself.

6. **expression**

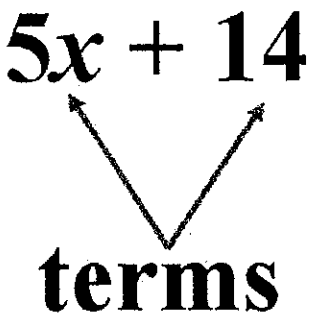
$$3x + 2$$

A mathematical phrase that contains operations, numbers, and/or variables.

7. **increased** to add to; more

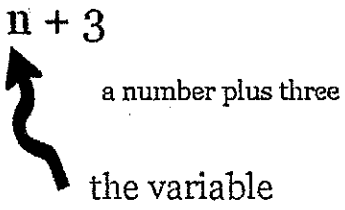
8. **substitution** to replace a variable with another number

9. **terms**



numbers and expressions used in an equation or expression. They are separated by addition and subtraction.

10. **variable**



a letter used to represent a quantity that can change.

Warm-Up | Two-Way Tables

Lesson Question What is a two-way table?

Lesson Goals

Display and analyze data using two-way frequency tables.

- **Create** two-way and [relative] frequency tables.
- **Determine** [joint], marginal, and relative frequencies.
- **Interpret** [two-way] and relative frequency tables.

Words to Know

Fill in this table as you work through the lesson. You may also use the glossary to help you.

construct	to [build] or [form] something by combining parts
joint frequency	a frequency that represents the count of two [categorical variables] at an intersection of a row and column in a two-way table
marginal frequency	a frequency that represents the total count of a [row] or [column] in a two-way table

Warm-Up | Two-Way Tables

Words to Know

relative frequency	the ratio of the number of times an event occurs to the total number of data points
two-way table	a table that shows data classified in two different ways
Venn diagram	a graphic organizer representing relationships among groups or sets

Two-Way Tables

A **two-way table** includes rows that represent categories for one variable and columns that represent categories for a second variable. Total frequencies are also given for each row and column, respectively.

8 teachers wear contacts

Complete the two-way table.

There are 230 total students

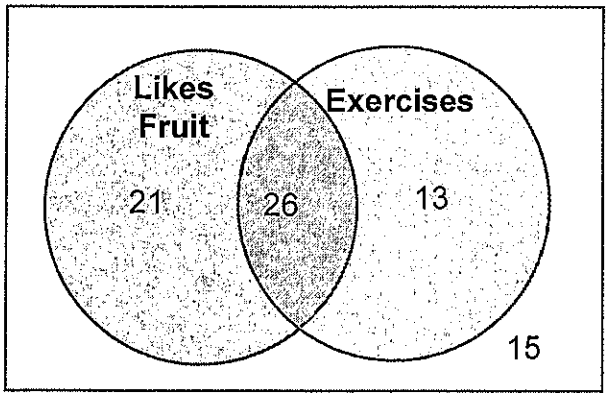
	Wears Glasses	Wears Contacts	No Eyewear	Total
Students	32	51	147	230
Teachers	3	8	1	12
Total	35	59	148	242

Instruction | Two-Way Tables

Slide 2

Creating a Two-Way Frequency Table from a Venn Diagram

A group of 75 students were polled about whether they like fruit and whether they exercise daily. The data from the survey are shown in the **Venn diagram**.



Use the Venn diagram to **construct** a two-way frequency table.

	Likes Fruit	Does Not Like Fruit	Total
Exercises	26	13	39
Does Not Exercise	21	15	36
Total	47	28	75

Instruction | Two-Way Tables

Slide 4

Creating a Two-Way Frequency Table from a Scenario.

A group of 480 juniors and seniors were surveyed on whether they speak more than one language. Of those surveyed, 149 speak more than one language, with 93 of those being seniors. The survey also found that 133 juniors and 198 seniors only speak one language. Construct a two-way frequency table based on this data.

	One Language	More Than One Language	Total
Junior	133	56	189
Senior	198	93	291
Total	331	149	480

Slide 6

Marginal and Joint Frequencies

A **marginal frequency** represents the [total] of a row or a column of a table.

55, 75, 76, 54, and 130 are marginal frequencies.

A **joint frequency** represents the frequency [count] of two categorical variables at an intersection of a row and a column of a table.

34, 42, 21, and 33 are joint frequencies.

	Plays an Instrument	Does Not Play an Instrument	Total
Takes a Foreign Language	34	42	76
Does Not Take a Foreign Language	21	33	54
Total	55	75	130

Slide 9

Relative Frequency

A **relative frequency** is the ratio of the number of times an event occurs to the total number of data points.

	Right-Handed	Left-Handed	Total
Males	29	3	32
Females	26	2	28
Total	55	5	60

- What is the marginal relative frequency for right-handed people?

$$\frac{\boxed{55}}{60} \approx 0.92 = 92\%$$

- What is the joint relative frequency of left-handed males?

$$\frac{3}{60} \approx 0.05 = \boxed{5}\%$$

Instruction | Two-Way Tables

Slide 11

Creating a Relative Frequency Table

Create a relative frequency table. The frequencies are shown in orange at the top of each cell.

	Right-Handed	Left-Handed	Total
Males	29 $\frac{29}{60} \approx 0.483$ $= 48.3\%$	3 $\frac{3}{60} = 0.05 = 5\%$	32 $\frac{32}{60} \approx 0.533$ $= 53.3\%$
Females	26 $\frac{26}{60} \approx 0.433 = 43.3\%$	2 $\frac{2}{60} \approx 0.033$ $= 3.3\%$	28 $\frac{28}{60} \approx 0.467 = 46.7\%$
Total	55 $\frac{55}{60} \approx 0.92 = 92\%$	5 $\frac{5}{60} \approx 0.083 = 8.3\%$	60 $\frac{60}{60} = 1$

All of the ratios in the last row and column should add up to 1.

Instruction | Two-Way Tables

Slide 13

Interpreting Relative Frequencies

The results of a survey of 480 juniors and seniors on whether they speak more than one language are shown in the table.

	One Language	More Than One Language	Total
Junior	0.28	0.12	0.39
Senior	0.41	0.19	0.61
Total	0.69	0.31	1.00

- What is the [marginal] relative frequency for students who speak only one language? Interpret the meaning of this value.

[0.69] = 69%

69% of the students speak one language.

- What is the difference between the percent of juniors and the percent of seniors who speak more than one language?

[0.19] − [0.12] = 0.07 = 7%

There are 7% more seniors who speak more than one language than there are juniors.

Summary | Two-Way Tables

Lesson Question What is a two-way table?

Answer

(Sample answer) A two-way table is a table with rows and columns that can be used to organize data classified in two ways. Marginal, joint, and relative frequencies can be calculated from two-way tables.

Slide 2

Review: Key Concepts

- A two-way table has rows that represent categories for one variable and columns that represent categories for a second variable.
- A marginal frequency represents the total of a row or a column of a table.
- A joint frequency represents the frequency count of two categorical variables at an intersection of a row and a column of a table.
- A relative frequency is the ratio of the number of times an event occurs to the total number of data points.

Summary | Two-Way Tables

Use this space to write any questions or thoughts about this lesson.