[Print this page]

Course: VLA Math Algebra I_1
Unit: Proportions, Percents, and Statistics

Answer the following questions below:

1) Define a ratio.

A ratio is a comparison of two quantities and is oftern written as a fraction.

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Not Graded

2) Define a proportion.

A proportion is any statement that two ratios are equal.

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Not Graded

3) Explain how to solve proportions for unknown variables.

Cross products are used to solve for a missing value in a proportion. Solving proportions is a matter of stating the ratios as fractions, setting the two fractions equal to each other, cross-multiplying, and solving the resulting equation.

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Not Graded

4) Determine if the following ratios are equal by using cross products.

$\frac{56}{24} = \frac{49}{21}$

(•) a.) yes

( ) b.) no

Attachment(s): None

[Save]

Not Graded

5) Determine if the following ratios are equal by using cross products.

$$\frac{12}{16}=\frac{60}{80}$$

(•) a.) yes

( ) b.) no

Attachment(s): None

[Save]

Not Graded

6) Determine if the following ratios are equal by using cross products.

$$\frac{12}{8}=\frac{48}{34}$$

( ) a.) yes

(•) b.) no

Attachment(s): None

[Save]

Not Graded

7) Determine if the following ratios are equal by using cross products.

$$\frac{12}{20}=\frac{27}{45}$$

(•) a.) yes

( ) b.) no

Attachment(s): None

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Not Graded

8) Solve the proportion.

$$\frac{x}{4}=\frac{9}{12}$$

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Not Graded

9) Solve the proportion.

$$\frac{z}{10} = \frac{60}{240}$$

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Not Graded

10) Solve the proportion.

$$\frac{x+2}{3} = \frac{3x}{6}$$

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Not Graded

11) Solve the proportion.

$$\frac{2x-5}{10} = \frac{3x}{20}$$

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Not Graded

12) Solve the proportion.

$$\frac{5z}{7} = \frac{z+3}{14}$$

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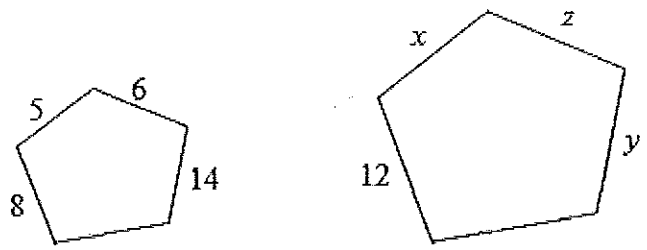
Not Graded

Refer to the similar pentagons below and use proportions to find the unknown lengths in the next three problems.



13) What is the value of "x"?

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Not Graded

14) What is the value of "y"?

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Not Graded

15) What is the value of "z"?

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Not Graded

16) Use a proportion to solve the following problem: The ratio of the gravity on Mars to the gravity on Earth is about 3/8. If Becky weighs 130 pounds on Earth, how much will she weigh on Mars?

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Not Graded

17) Use a proportion to solve the following problem: A picture that is 4 inches long and 6 inches wide is enlarged so that it is now 7 inches long. What is the width of the enlarged picture?

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Not Graded

18) Use a proportion to solve the following problem: The ratio of boys to girls at a school is 7/5. If there are 504 students who attend the school, how many are boys? (Hint: Find the ratio of the number of boys to the total number of students.)

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Not Graded

Solve the next seven problems by using a proportion.

19) 27 is 60% of what number?

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Attachment(s): None

[Save]

Not Graded

20) What is 135% of 85?

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Attachment(s): None

[Save]

Not Graded

21) What percent of 80 is 10?

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Not Graded

22) Jim bought a TV on sale for $127.50 after a 15% discount. What was the original price of the TV?

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Attachment(s): None

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Not Graded

23) The Blue Hawks won 51 games and lost 24 games. What percent of the games did the team win?

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Attachment(s): None

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Not Graded

24) Lori paid $26 for a pair of jeans that she bought on sale. This was 65% of the original price. What was the original price?

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Attachment(s): None

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Not Graded

25) Amy bought two pairs of shoes that cost $39 each. If the sales tax in her state is 7.5%, what was her total bill?

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Attachment(s): None

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Not Graded

26) Define the mean of a set of data and explain how to find it.

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Attachment(s): None

[Save]

Not Graded

27) Define the median of a set of data and explain how to find it.

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Attachment(s): None

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Not Graded

28) Define the mode of a set of data.

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Attachment(s): None

[Save]

Not Graded

29) Define the range of a set of data.

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Attachment(s): None

[Save]

Not Graded

30) State the mean, median, mode, and range for the set of data.
number of runs scored in 8 baseball games: 2, 4, 1, 0, 7, 3, 4, 3

mean = ? median = ? mode = ? range = ?

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Attachment(s): None

[Save]

Not Graded

31) State the mean, median, mode, and range for the set of data.
amount of snow accumulation (in inches) per week for
the past 10 weeks: 14, 8, 15, 5, 3, 2, 2, 8, 4, 2

mean = ? median = ? mode = ? range = ?

250 character(s) left

Attachment(s): None

[Save]

Not Graded

32) State the mean, median, mode, and range for the set of data.
the average temperature per week for 11 weeks:

86, 84, 88, 91, 83, 72, 78, 82, 81, 77, 80

mean = ? median = ? mode = ? range = ?

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Attachment(s): None

[Save]

Not Graded

Review

33) Solve the system of equations by using substitution.

$y = 2$

$2x - 4y = 1$

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Not Graded

34) Find the product.

$$\frac{y^2-y-2}{y+2}\cdot\frac{y^2+y-2}{y-2}$$

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Not Graded

35) Solve the quadratic equation by factoring.

$0 = x^2 - 7x + 12$

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Not Graded

36) Simplify the expression by using positive exponents. State the letter of the correct answer.

$$x^5 \cdot x^{-3} \cdot x^{-7}$$

A. x^{105} B. x^{15} C. $\frac{1}{x^{105}}$ D. $\frac{1}{x^{15}}$ E. $\frac{1}{x^5}$

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Not Graded

37) Find the sum.

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Not Graded

38) Solve for "a".

$\frac{a}{3} - \frac{a}{2} = 1$

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Attachment(s): None

[Save]

Not Graded

39) Find the slope of the line containing the points (4, 5) and (–3, –9).

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[Save]

Not Graded

40) Find the slope of the line that is perpendicular to the line represented by the equation shown below.

$12 = 2x - 3y$

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Attachment(s): None

[Save]

Not Graded

[All Finished! Review My Answers]

[Print this page]

Course: VLA Math Algebra I_1
Unit: Functions and Relations

Answer the following questions below:

1) What can the graph of a function show?

It can allow you to determine if the relation is a function or not. If the vertical line does not touch more than one point at a time, the relation is a function. if the vertical line touches more than one point at a time the relation is not a function.

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Not Graded

2) Define relation.

A relation is a set of ordered pairs.

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Not Graded

3) Define function.

A function is a special type of relation because each element of the domain is paired with exactly one element of the range.

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Attachment(s): None

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Not Graded

4) State the two important parts of a function and define each part.

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Attachment(s): None

[Save]

Not Graded

5) Determine if the relation is a function. State "yes" or "no". If "no", explain why.
{(January, snow), (February, hearts), (December, snow), (August, sun)}

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Attachment(s): None

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Not Graded

6) Determine if the relation is a function. State "yes" or "no". If "no", explain why.
{(golf, green), (football, brown), (skiing, white), (football, green)}

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Attachment(s): None

[Save]

Not Graded

7) Determine if the relation is a function. State "yes" or "no". If "no", explain why.
$\{(2, 3), (3, 2), (6, -5), (-5, 6)\}$

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Attachment(s): None

[Save]

Not Graded

8) When a relation is graphed in the coordinate plane, describe how to determine if the relation is a function.

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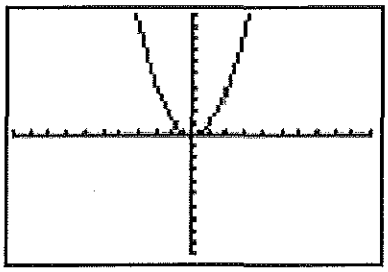
Not Graded

9) Is the graph a function?



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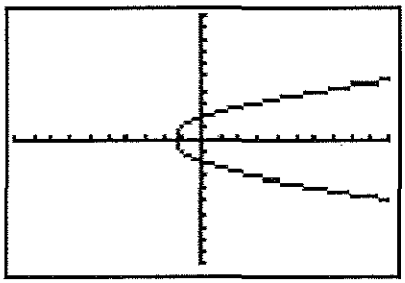
Not Graded

10) Is the graph a function?



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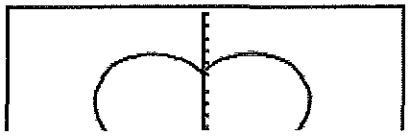
11) Is the graph a function?



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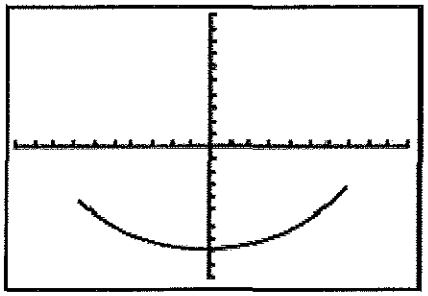
Not Graded

12) Is the graph a function?



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Not Graded

13) Evaluate.

$f(x) = 2x^2 + 2x - 4$ for $f(-1)$

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Attachment(s): None

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Not Graded

14) Evaluate.

$g(x) = 5x^2 - 3x$ for $g(2)$

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Attachment(s): None

[Save]

Not Graded

15) Evaluate.

$h(x) = x^3 - x^2 + 2x - 1$ for $h(-3)$

250 character(s) left

Attachment(s): None

[Save]

Not Graded

16) Evaluate.

$f(x) = \frac{1}{3}x^2 + \frac{2}{3}x$ for $f\left(\frac{1}{3}\right)$

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Attachment(s): None

[Save]

Not Graded

For the next four problems, refer to the function shown below and find the ordered pairs for the domain described in each problem.

$f(x) = x^2 + 1$

17) List the set of ordered pairs that has a domain that consists of integers from –2 to 4.

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Attachment(s): None

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Not Graded

18) List the set of ordered pairs that has a domain that consists of even integers from –6 to 2.

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Not Graded

19) List the set of ordered pairs that has a domain that consists of multiples of 3 from –3 to 15.

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Attachment(s): None

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Not Graded

20) List the set of ordered pairs that has a domain that consists of odd integers from –11 to –1.

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Attachment(s): None

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Not Graded

21) What is a transformation of a function?

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Attachment(s): None

[Save]

Not Graded

22) What is a translation of the graph of a function?

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Attachment(s): None

[Save]

Not Graded

23) What is a pre-image of the graph of a function?

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[Save]

Not Graded

24) What is an image of the graph of a function?

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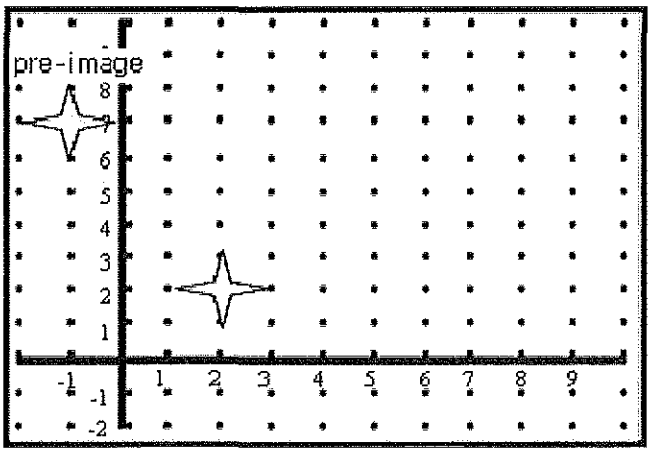
Not Graded

Refer to the diagram below to solve the next two problems.



25) Choose a point on the pre-image and state the corresponding coordinates on the image.

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Not Graded

26) Describe the translation from the pre-image to the image.

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Attachment(s): None

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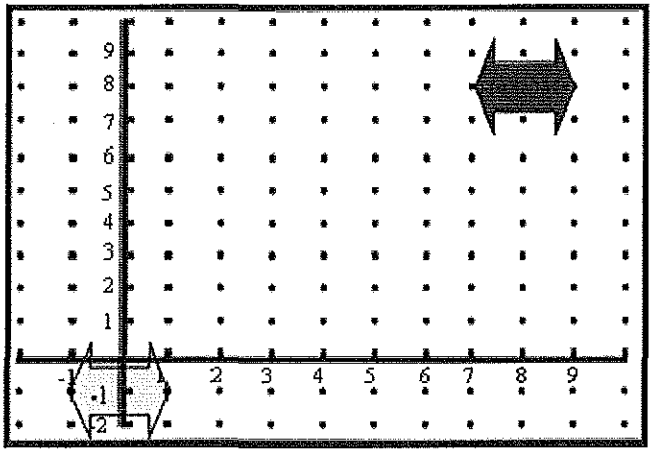
Not Graded

Refer to the diagram below to solve the next two problems.



27) Choose a point on the pre-image and state the corresponding coordinates on the image.

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Not Graded

28) Describe the translation from the pre-image to the image.

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Attachment(s): None

[Save]

Not Graded

29) Vertical translations are moves made that are parallel to what axis?

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Attachment(s): None

[Save]

Not Graded

30) Horizontal translations are moves made that are parallel to what axis?

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Attachment(s): None

[Save]

Not Graded

31) How are horizontal translations useful?

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Attachment(s): None

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Not Graded

32) A function f(x) and a parent function g(x) are shown below. Describe the translation of the function f(x) from the parent function g(x).

$f(x) = |x + 2| - 4, \quad g(x) = |x|$

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Attachment(s): None

[Save]

Not Graded

33) A function g(x) and a parent function h(x) are shown below. Describe the translation of the function g (x) from the parent function h(x).

$g(x) = x^2 + 3, \quad h(x) = x^2$

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Attachment(s): None

[Save]

Not Graded

34) A function h(x) and a parent function f(x) are shown below. Describe the translation of the function h(x) from the parent function f(x).

$h(x) = (x-4)^2 + 5, \quad f(x) = x^2$

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Attachment(s): None

[Save]

Not Graded

35) A function g(x) and a parent function h(x) are shown below. Describe the translation of the function g (x) from the parent function h(x).

$g(x) = |x| - 6, \quad h(x) = |x|$

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Attachment(s): None

[Save]

Not Graded

Review

36) Solve: 5x – (7x + 4) = 3(x + 5) + 4(5 – 2x)

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Attachment(s): None

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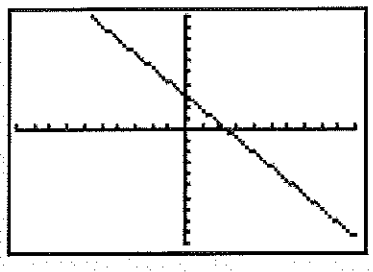
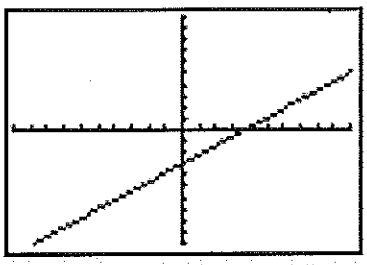
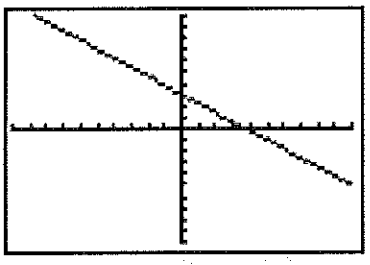
Not Graded

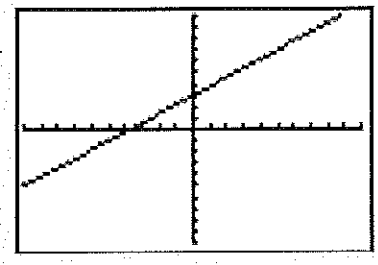
37) Graph the given equation. State the letter of the correct answer.

$$4x-5y=15$$

A. 

B. 

C. 

D. 

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Not Graded

38) Graph the given inequality. State the letter of the correct answer.

$$2x+3y<6$$

A. 

B. 

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Attachment(s): None

[Save]

Not Graded

39) Write the expression using positive exponents. State the letter of the correct answer.

$$\frac{-3a^{-3}}{2a^{2}b}$$

A. $\frac{3}{2a^{5}b}$ B. $\frac{-3}{2ab}$ C. $\frac{3}{2ab}$ D. $\frac{-3}{2a^{5}b}$

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Attachment(s): None

[Save]

Not Graded

40) Factor by grouping: mr + 3m + 2r + 6

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Attachment(s): None

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Not Graded

41) Rewrite the function in vertex form, and then state the vertex, the axis of symmetry, and the direction of opening.

$y = x^{2} + 5x + 4$

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Attachment(s): None

[Save]

Not Graded

42) Solve for "x".

$x^2 + 5x - 24 = 0$

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Attachment(s): None

[Save]

Not Graded

[All Finished! Review My Answers]

[Print this page]

Course: VLA Math Algebra I_1
Unit: Probability

Answer the following questions below:

1) When working with probability, explain the use of a tree diagram.

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2) Rachel is taking her friends to her favorite Mexican restaurant for lunch. The lunch special is shown below. (a) How many different combinations can Rachel and her friends make? (b) Draw a tree diagram to determine how many choices are available, and then list all possible choices.

Lunch Special

Choose any combination of 1 entree, 1 side dish, and 1 dessert.

Entrée	Side Dish	Dessert
Taco	Rice	Fried Ice Cream
Enchilada	Corn	Cinnamon Sticks
Burrito	Refried Beans	

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You may attach a file, if you choose. Attach File

[Save]

3) A store that sells sporting goods stocks 10 styles of shoes. Each style comes in 8 sizes and 5 colors. How many shoes must the store stock in order to have one pair of each style, size, and color?

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[Save]

Use the Fundamental Counting Principle to determine the number of choices for each situation in the next three problems.

4) A business woman has 8 skirts and 4 sweaters. How many different outfits can she make?

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[Save]

5) A menu contains 5 main dishes, 3 side dishes, 2 salads, and 4 desserts. How many different meals can be made with the selection?

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Attachment(s): None

[Save]

6) How many ways are there of drawing an ace from one deck of cards and a diamond from a second deck of cards?

250 character(s) left

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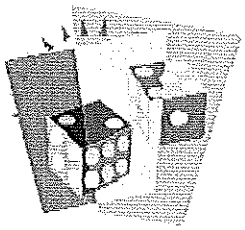
[Save]

For the next four problems, find the probability of each event happening when a blue die (numbered one through six) and a red die (numbered one through six) are rolled at the same time. Give the answer as a fraction and also as a percent.



7) Both numbers are odd.

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[Save]

8) Both numbers are less than 5.

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Attachment(s): None

[Save]

9) The blue cube is a 4 AND the red cube is even.

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[Save]

10) The red cube is less than 3 AND the blue cube is greater than 2.

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[Save]

For the next two problems, find the probability of each event happening if one number is selected from the list {2, 4, 6, 8} and another number is selected from the list {6, 7, 8}.

11) The two numbers selected are odd.

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[Save]

12) The two numbers selected are even.

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Attachment(s): None

[Save]

Review

13) Solve for "x".

$2(4x+1)=3(2x+4)$

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Attachment(s): None

[Save]

14) Solve for "n".

$\frac{n}{3}+\frac{4}{5}=2n-\frac{5}{6}$

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Attachment(s): None

[Save]

In the next two problems, "y varies directly as x". Find the constant of variation, and then write an

equation for the direct variation. State both the constant of variation and the equation.

15) y = 4.2 when x = 0.84

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Attachment(s): None

[Save]

16) y = 1.7 when x = 0.017

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Attachment(s): None

[Save]

17) Identify the slope and the y-intercept for the equation shown below.

$3x - 6y = 18$

250 character(s) left

Attachment(s): None

[Save]

18) Identify the slope and the y-intercept for the equation shown below.

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

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Attachment(s): None

[Save]

19) Find the x-intercept and the y-intercept for the equation shown below.

$x + 5y = 1$

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Attachment(s): None

[Save]

20) Find the x-intercept and the y-intercept for the equation shown below.

$x = 3y$

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[Save]

21) Write an equation for the line that contains the points (4, 3) and (8, 4).

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Attachment(s): None

[Save]

22) Write an equation for the line that contains the point (4, 5) and has a slope of 2.

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[Save]

23) Identify the slope of a line that is parallel to the line represented by the equation shown below.

$5y + 2x = 7$

250 character(s) left

Attachment(s): None

[Save]

24) Identify the slope of a line that is perpendicular to the line represented by the equation shown below.

$x - 7y = 4$

250 character(s) left

Attachment(s): None

[Save]

25) Solve the inequality. State the letter of the correct answer.

$$4 \leq 17 + x$$

A. 

B. 

C. 

D. 

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Attachment(s): None

[Save]

26) Solve the inequality.

$7 - \frac{m}{6} < 1$

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Attachment(s): None

[Save]

27) Solve the system of equations by substitution.

$2x + 3y = -8$

$x + y = 9$

250 character(s) left

Attachment(s): None

[Save]

28) Explain the solution to the previous problem.

4000 character(s) left

Attachment(s): None

[Save]

29) Solve the system of equations by elimination.

$x + 2y = 3$

$5x - 3y = 2$

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Attachment(s): None

[Save]

30) Explain the solution to the previous problem.

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Attachment(s): None

[Save]

31) Set up a system of equations to solve the following problem: Rachel is 25 years younger than her dad. The sum of their ages is 75. How old are Rachel and her dad now?

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Attachment(s): None

[Save]

32) Factor.

$6x^2y - 14xy$

250 character(s) left

Attachment(s): None

[Save]

33) Factor: 7(m + 4) – x(m + 4)

250 character(s) left

Attachment(s): None

[Save]

34) Factor: ab – 3b + a – 3

250 character(s) left

Attachment(s): None

[Save]

35) Factor.

$y^2 + 22y + 21$

250 character(s) left

Attachment(s): None

[Save]

36) Factor.

$4n^2 + 2n - 6$

250 character(s) left

Attachment(s): None

[Save]

37) Solve by factoring.

$a^2 + 13a + 22 = 0$

250 character(s) left

Attachment(s): None

[Save]

38) Solve by factoring.

$n^2 + 3n = 18$

250 character(s) left

Attachment(s): None

[Save]

For the next four problems, perform the indicated operation.

39) Find the difference.

$$\frac{4m}{n+3} - \frac{9m}{n+3}$$

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Attachment(s): None

[Save]

40) Find the sum.

$$\frac{-3}{w-2} + \frac{4}{5(w-2)}$$

250 character(s) left

Attachment(s): None

[Save]

41) Find the product.

$$\frac{b^2}{b^2+5b+4} \cdot \frac{b+1}{b^2+4b}$$

250 character(s) left

Attachment(s): None

[Save]

42) Find the product.

$$\frac{z}{z+3} \cdot \frac{z^2-9}{z^2}$$

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Attachment(s): None

[Save]

43) Solve the rational equation for "d" and list any restricted values on the denominator.

$$\frac{2d}{3} = 2 + \frac{d+3}{6}$$

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Attachment(s): None

[Save]

44) Solve the rational equation for "m" and list any restricted values on the denominator.

$$\frac{1}{4} + \frac{2}{m} = \frac{11}{12}$$

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Attachment(s): None

[Save]

45) Solve the rational equation for "n" and list any restricted values on the denominator.

$$\frac{n-5}{n^2-1} + \frac{2n}{n-1} = 1$$

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Attachment(s): None

[Save]

[All Finished! Review My Answers]