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CLEP College Algebra Study Guide 2020-2021

A Comprehensive Review and Step-By-Step Guide to Preparing for the CLEP College Algebra

Recommended by Test Prep Experts



Reza Nazari

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By

Reza Nazari

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Description

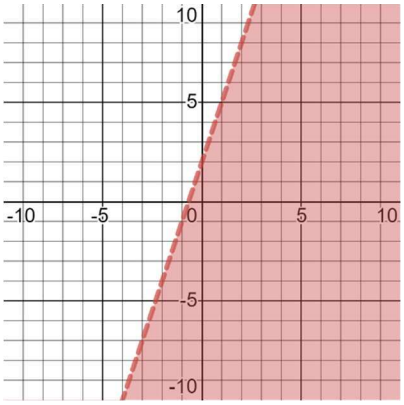
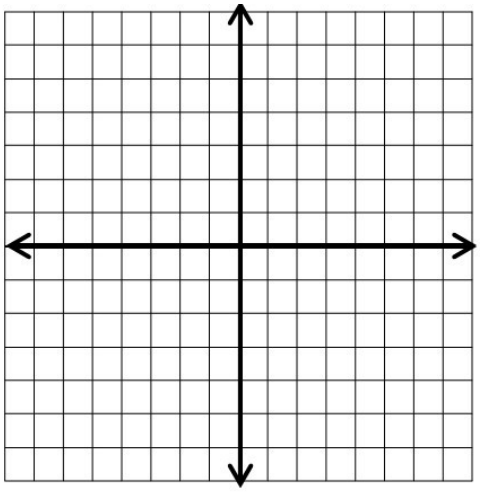
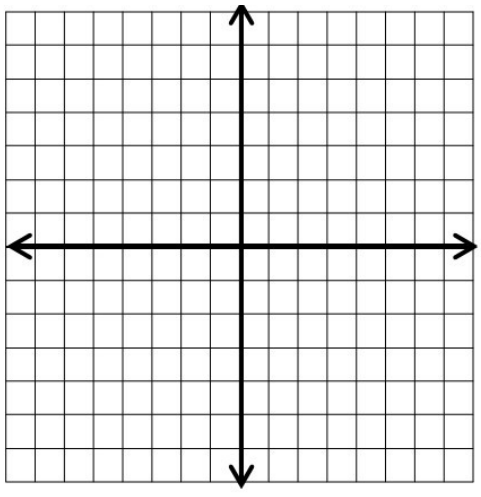
CLEP College Algebra Study Guide, which reflects the 2020 - 2021 test guidelines, is designed by top College Algebra instructors and test prep experts to help test takers succeed on the CLEP College Algebra Test. The updated version of this comprehensive CLEP College Algebra preparation book includes Math lessons, extensive exercises, sample College Algebra questions, and quizzes with answers and detailed solutions to help you hone your math skills, overcome your exam anxiety, boost your confidence—and do your best to ace the CLEP College Algebra exam on test day. Upon completion of this perfect CLEP College Algebra prep book, you will have a solid foundation and sufficient practice to ace the CLEP College Algebra test.

Not only does this all-inclusive prep book offer everything you will ever need to prepare for the CLEP College Algebra test, but it also contains two complete and realistic CLEP College Algebra tests that reflect the format and question types on the CLEP College Algebra to help you check your exam-readiness and identify where you need more practice.

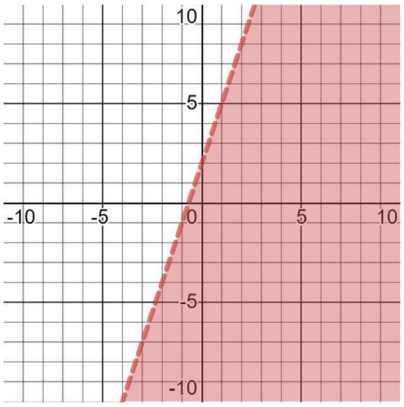
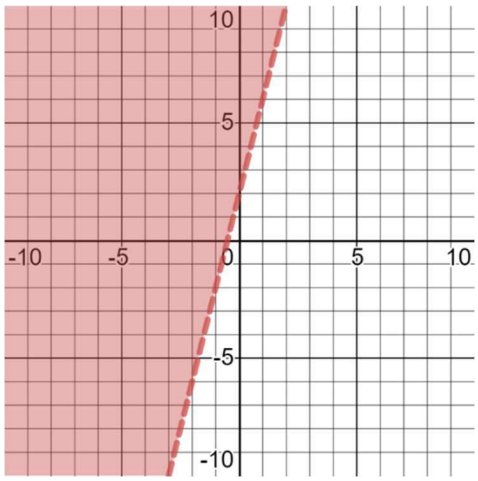
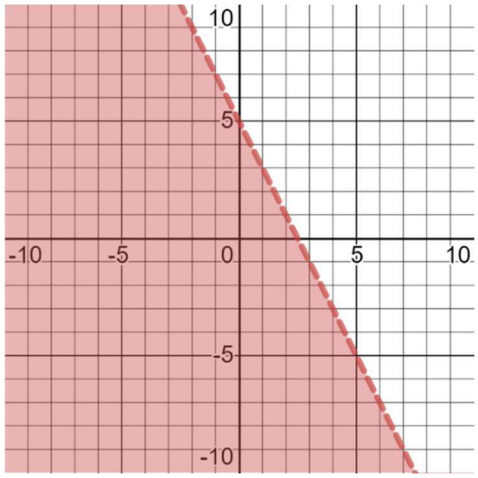
CLEP College Algebra Study Guide contains many exciting and unique features to help you prepare for the CLEP College Algebra test, including:

- ✓ Content 100% aligned with the 2020 CLEP College Algebra test
- ✓ Written by CLEP College Algebra instructors and test experts
- ✓ Complete coverage of all CLEP College Algebra concepts and topics which you will be tested
- ✓ Step-by-step guide for all CLEP College Algebra topics
- ✓ Abundant Math skill building exercises to help test-takers approach different question types that might be unfamiliar to them
- ✓ Exercises on different College Algebra topics such as integers, percent, equations, polynomials, exponents and radicals
- ✓ 2 full-length practice tests (featuring new question types) with detailed answers

Name: ……	**Date:** ……

Topic	**Graphing Linear Inequalities**
Notes	☑ To graph a linear inequality, first draw a graph of the "equals" line. ☑ Choose a testing point. (it can be any point on both sides of the line.) ☑ Put the value of (x, y) of that point in the inequality. If that works, that part of the line is the solution. If the values don't work, then the other part of the line is the solution.
Example	***Sketch the graph of*** $y < 3x + 2$ **Solution:** First, graph the line: $y = 3x + 2$ The slope is 3 and y-intercept is 2. Then, choose a testing point. The easiest point to test is the origin: $(0, 0)$ $(0,0) \rightarrow y < 3x + 2 \rightarrow 0 < 3(0) + 2 \rightarrow 0 < 2$ 0 is less than 2. So, this part of the line (on the right side) is the solution. 
Your Turn!	3) $y > 4x + 2$  4) $y < -2x + 5$ 

Name: ……	**Date:** ……

Topic	**Graphing Linear Inequalities - Answers**
Notes	☑ To graph a linear inequality, first draw a graph of the "equals" line. ☑ Choose a testing point. (it can be any point on both sides of the line.) ☑ Put the value of (x, y) of that point in the inequality. If that works, that part of the line is the solution. If the values don't work, then the other part of the line is the solution.
Example	***Sketch the graph of*** $y < 3x + 2$ **Solution:** First, graph the line: $y = 3x + 2$ The slope is 3 and y-intercept is 2. Then, choose a testing point. The easiest point to test is the origin: $(0, 0)$ $(0,0) \rightarrow y < 3x + 2 \rightarrow 0 < 3(0) + 2 \rightarrow 0 < 2$ 0 is less than 2. So, this part of the line (on the right side) is the solution. 
Your Turn!	1) $y > 4x + 2$  2) $y < -2x + 5$ 

Name: ……..	**Date:** ……

Topic	**Multiplication Property of Exponents**	
Notes	✓ Exponents are shorthand for repeated multiplication of the same number by itself. For example, instead of 2×2, we can write 2^2. For $3 \times 3 \times 3 \times 3$, we can write 3^4 ✓ In algebra, a variable is a letter used to stand for a number. The most common letters are: $x, y, z, a, b, c, m, and\ n$. ✓ Exponent's rules: $x^a \times x^b = x^{a+b}$, $\frac{x^a}{x^b} = x^{a-b}$ $(x^a)^b = x^{a\times b}$ $(xy)^a = x^a \times y^a$ $(\frac{a}{b})^c = \frac{a^c}{b^c}$	
Example	***Multiply.*** $4x^3 \times 2x^2$ Use Exponent's rules: $x^a \times x^b = x^{a+b} \rightarrow x^3 \times x^2 = x^{3+2} = x^5$ Then: $4x^3 \times 2x^2 = 8x^5$	
Your Turn!	1) $x^2 \times 3x =$	2) $5x^4 \times x^2 =$
	3) $3x^2 \times 4x^5 =$	4) $3x^2 \times 6xy =$
	5) $3x^5y \times 5x^2y^3 =$	6) $3x^2y^2 \times 5x^2y^8 =$
	7) $5x^2y \times 5x^2y^7 =$	8) $6x^6 \times 4x^9y^4 =$
	9) $8x^2y^5 \times 7x^5y^3 =$	10) $12x^6x^2 \times 3xy^5 =$

Name:	**Date:** .....

Topic	**Multiplication Property of Exponents - Answers**	
Notes	✓ Exponents are shorthand for repeated multiplication of the same number by itself. For example, instead of 2×2, we can write 2^2. For $3 \times 3 \times 3 \times 3$, we can write 3^4 ✓ In algebra, a variable is a letter used to stand for a number. The most common letters are: x, y, z, a, b, c, m, and . ✓ Exponent's rules: $x^a \times x^b = x^{a+b}$, $\frac{x^a}{x^b} = x^{a-b}$ $(x^a)^b = x^{a\times b}$ $(xy)^a = x^a \times y^a$ $(\frac{a}{b})^c = \frac{a^c}{b^c}$	
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Your Turn!	1) $x^2 \times 3x = 3x^3$	2) $5x^4 \times x^2 = 5x^6$
	3) $3x^2 \times 4x^5 = 12x^7$	4) $3x^2 \times 6xy = 18x^3y$
	5) $3x^5y \times 5x^2y^3 = 15x^7y^4$	6) $3x^2y^2 \times 5x^2y^8 = 15x^4y^{10}$
	7) $5x^2y \times 5x^2y^7 = 25x^4y^8$	8) $6x^6 \times 4x^9y^4 = 24x^{15}y^4$
	9) $8x^2y^5 \times 7x^5y^3 = 56x^7y^8$	10) $12x^6x^2 \times 3xy^5 = 36x^9y^5$

Name: ……..	**Date:** ……

Topic	**Division Property of Exponents**	
Notes	✓ For division of exponents use these formulas: $\frac{x^a}{x^b} = x^{a-b}$, $x \neq 0$ $\frac{x^a}{x^b} = \frac{1}{x^{b-a}}$, $x \neq 0$, $\frac{1}{x^b} = x^{-b}$	
Example	***Simplify .*** $\frac{6x^3y}{36x^2y^3}$ First cancel the common factor: $6 \rightarrow \frac{6x^3y}{36x^2y^3} = \frac{x^3y}{6x^2y^3}$ Use Exponent's rules: $\frac{x^a}{x^b} = x^{a-b} \rightarrow \frac{x^3}{x^2} = x^{3-2} = x^1 = x$ Then: $\frac{6x^3y}{36x^2y^3} = \frac{xy}{9y^3}$ → now cancel the common factor: $y \rightarrow \frac{xy}{6y^3} = \frac{x}{6y^2}$	
Your Turn!	1) $\frac{3^7}{3^2} =$	2) $\frac{5x}{10x^3} =$
	3) $\frac{3x^3}{2x^5} =$	4) $\frac{12x^3}{14x^6} =$
	5) $\frac{12x^3}{9y^8} =$	6) $\frac{25xy^4}{5x^6y^2} =$
	7) $\frac{2x^4y^5}{7xy^2} =$	8) $\frac{16x^2y^8}{4x^3} =$
	9) $\frac{12x^4}{15x^7y^9} =$	10) $\frac{12yx^4}{10yx^8} =$

Name:	**Date:** .....

Topic	**Division Property of Exponents - Answers**	
Notes	✓ For division of exponents use following formulas: $\frac{x^a}{x^b} = x^{a-b}$, $x \neq 0$ $\frac{x^a}{x^b} = \frac{1}{x^{b-a}}$, $x \neq 0$, $\frac{1}{x^b} = x^{-b}$	
Example	***Simplify.*** $\frac{6x^3y}{36x^2y^3}$ First cancel the common factor: $6 \rightarrow \frac{6x^3y}{36x^2y^3} = \frac{x^3y}{6x^2y^3}$ Use Exponent's rules: $\frac{x^a}{x^b} = x^{a-b} \rightarrow \frac{x^3}{x^2} = x^{3-2} = x^1 = x$ Then: $\frac{6x^3y}{36x^2y^3} = \frac{xy}{9y^3}$ → now cancel the common factor: $y \rightarrow \frac{xy}{6y^3} = \frac{x}{6y^2}$	
Your Turn!	1) $\frac{3^7}{3^2} = 3^5$	2) $\frac{5x}{10x^3} = \frac{1}{2x^2}$
	3) $\frac{3x^3}{2x^5} = \frac{3}{2x^2}$	4) $\frac{12x^3}{14x^6} = \frac{6}{7x^3}$
	5) $\frac{12x^3}{9y^8} = \frac{4x^3}{3y^8}$	6) $\frac{25xy^4}{5x^6y^2} = \frac{5y^2}{x^5}$
	7) $\frac{2x^4y^5}{7xy^2} = \frac{2x^3y^3}{7}$	8) $\frac{16x^2y^8}{4x^3} = \frac{4y^8}{x}$
	9) $\frac{12x^4}{15x^7y^9} = \frac{4}{5x^3y^9}$	10) $\frac{12y^8x^4}{10y^2x^8} = \frac{6y^6}{5x^4}$