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2026

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2026

The Most Comprehensive Review of Algebra I

By

Reza Nazari

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	F. BF F. LE	A. Build a function that models a relationship between two quantities. B. Build new functions from existing functions. Linear, Quadratic, and Exponential Models A. Construct and compare linear, quadratic, exponential models & solve problems. B. Interpret expressions for functions in terms of the situation they model.	
Statistics	S. ID	Interpreting Categorical and Quantitative Data B. Summarize, represent, and interpret data on two categorical quantitative variables. C. Interpret linear models.	2
		Total Number of Operational Items	24
		Total Number of Points	24

Reasoning Subclaim		
Evidence Statements	**Number of Machine-Scored Items (1 point)**	**Number of Constructed Response Items (4 points)**
A1. R. 1 Given an equation reason about the number or nature of the solutions. **A1. R. 2** Given a system of equations reason about the number or nature of the solutions. **A1. R. 3** Reasoning based on the principle that the graph of an equation and inequalities in two variables is the set of all its solutions plotted in the coordinate plane. **A1. R. 4** Identify an option that would refute a conjecture/claim. **A1. R. 5** Identify a correct method and justification given two or more chains of reasoning. **A1. R. 6** Given a proposition determine cases where the proposition is true or false. **A1. R. 7** Identify an unstated assumption that would make a problem well-posed or make a particular method viable. **A1. R. 8** Given an equation or system of equations, present the solution steps as a	4	2

logical argument that concludes with the set of solutions (if any). **A1.R.9** Construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures about functions. **A1.R.10** Express reasoning about transformations of functions. **A1.R.11** Express reasoning about linear and exponential growth.		
Total Number of Points	4	8

Modeling Subclaim		
Evidence Statements	**Number of Machine-Scored Items (1 point)**	**Number of Constructed Response Items (4 points)**
A1.M.1 Choose between competing mathematical models to solve real-world problems. **A1.M.2** Construct a mathematical model to solve a problem. **A1.M.3** Validate a given model and make improvement. **A1.M.4** Interpret the solution to a real-world problem in terms of context. **A1.M.5** Compare the result from a model with real world data. **A1.M.6** Solve multi-step contextual word problems with degree of difficulty appropriate to the course, requiring application of course-level knowledge. **A1.M.7** Identify information or assumptions needed to solve a problem. **A1.M.8** Provide a reasoned estimate of a quantity needed to solve a problem.	4	2
Total Number of Points	4	8

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Multiplying and Dividing Integers

Solve.

1) $(-6) \times (-7) =$ _____

2) $8 \times (-5) =$ _____

3) $48 \div (-8) =$ _____

4) $(-72) \div 9 =$ _____

5) $(4) \times (-6) =$ _____

6) $(-9) \times (-11) =$ _____

7) $(10) \div (-5) =$ _____

8) $144 \div (-12) =$ _____

9) $(10) \times (-2) =$ _____

10) $(-8) \times (-2) \times 5 =$ _____

11) $(8) \div (-2) =$ _____

12) $45 \div (-15) =$ _____

13) $(5) \times (-7) =$ _____

14) $(-6) \times (-5) \times 4 =$ _____

15) $(12) \div (-6) =$ _____

16) $(14) \div (-7) =$ _____

17) $196 \div (-14) =$ _____

18) $(27 - 13) \times (-2) =$ _____

19) $125 \div (-5) =$ _____

20) $66 \div (-6) =$ _____

21) $(-6) \times (-5) \times 3 =$ _____

22) $(15 - 6) \times (-3) =$ _____

23) $(32 - 24) \div (-4) =$ _____

24) $72 \div (-6) =$ _____

25) $(-14 + 8) \times (-7) =$ _____

26) $(-3) \times (-9) \times 3 =$ _____

27) $84 \div (-12) =$ _____

28) $(-12) \times (-10) =$ _____

29) $22 \times (-3) =$ _____

30) $(-2) \times (-6) \times 5 =$ _____

31) $(24) \div (-3) =$ _____

32) $(-15) \div (3) =$ _____



Translate Phrases into an Algebraic Statement

Translate each phrase into an algebraic statement.

1) Seven more than a number is 18. _____

2) 12 times the sum of 5 and x. _____

3) The square of 12. _____

4) Nine less than a number is 11. _____

5) Six more than a number is 14. _____

6) 10 times the sum of 7 and x. _____

7) 25 multiplied by x. _____

8) Two less than a number is 12. _____

9) 8 times the sum of 8 and x. _____

10) Three more than a number is 10. _____

11) The difference between forty–eight and y. _____

12) 27 divided by x. _____

13) 17 multiplied by x. _____

14) The difference between x and 29 is 14. _____

15) 56 divided by x. _____



Order of Operations

Calculate.

1) $16 + (30 \div 5) =$ _____

2) $(3 \times 9) \div (-3) =$ _____

3) $57 - (3 \times 8) =$ _____

4) $(-12) \times (7 - 3) =$ _____

5) $(18 - 7) \times (6) =$ _____

6) $(6 \times 10) \div (12 + 3) =$ _____

7) $(13 \times 2) - (24 \div 6) =$ _____

8) $(-5) + (4 \times 3) + 8 =$ _____

9) $(4 \times 2^3) + (16 - 9) =$ _____

10) $(3^2 \times 7) \div (-2 + 1) =$ _____

11) $[-2(48 \div 2^3)] - 6 =$ _____

12) $(-4) + (7 \times 8) + 18 =$ _____

13) $(3 \times 7) + (16 - 7) =$ _____

14) $[3^3 \times (48 \div 2^3)] \div (-2) =$ _

15) $(14 \times 3) - (3^4 \div 9) =$ _____

16) $(96 \div 12) \times (-3) =$ _____

17) $(48 \div 2^2) \times (-2) =$ _____

18) $(56 \div 7) \times (-5) =$ _____

19) $(-2^2) + (7 \times 9) - 21 =$ ___

20) $(2^4 - 9) \times (-6) =$ _____

21) $[4^3 \times (50 \div 5^2)] \div (-16) =$

22) $(3^2 \times 4^2) \div (-4 + 2) =$ ____

23) $6^2 - (-6 \times 4) + 3 =$ _____

24) $4^2 - (5^2 \times 3) =$ _____

25) $(-4) + (12^2 \div 3^2) - 7^2 =$ __

26) $(3^2 \times 5) + (-5^2 - 9) =$ ____

27) $2[(3^2 \times 5) \times (-6)] =$ _____

28) $(11^2 - 2^2) - (-7^2) =$ _____

29) $(2^2 \times 5) - (64 \div 8) =$ _____

30) $2[(3^2 \times 4) + (35 \div 5)] =$ ___

31) $(4^2 \times 3) \div (-6) =$ _____

32) $3^2[(4^3 \div 16) - (3^3 \div 27)] =$