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Reza Nazari

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2026

The Most Comprehensive Review of Algebra I

By

Reza Nazari

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HS.A.2.f Given a line, write the equation of a line that is parallel or perpendicular to it.

HS.A.2.g Perform and explain operations such as addition, subtraction, multiplication, division, and factoring on polynomials.

HS.A.2.h Explain the connection between the factors of a polynomial and the zeros of a polynomial.

HS.A.2.i Combine functions by composition and perform operations on functions.

HS.A.3 Applications: Students will solve authentic problems using nonlinear functions.

HS.A.3.a Analyze and model authentic situations using various representations and appropriate technology.

HS.A.3.b Identify, interpret, relate, and graph the factors, x-intercepts, roots, and zeros of polynomial functions using algebraic and graphing methods.

HS.A.3.c Identify and predict appropriate solutions to equations given context and domain/range (e.g., extraneous solutions, imaginary solutions, no solution, infinitely many solutions).

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

Integers and Absolute Value

Calculate.

1) $4 - |6 - 10| =$ _____

2) $|14| - \frac{|-18|}{3} =$ _____

3) $\frac{|8\times-8|}{4} \times \frac{|-20|}{5} =$ _____

4) $|12 \times 3| + \frac{|-81|}{9} =$ _____

5) $4 - |11 - 18| - |3| =$ ____

6) $|18| - \frac{|-12|}{4} =$ _____

7) $\frac{|5\times-8|}{10} \times \frac{|-22|}{11} =$ _____

8) $|9 \times 3| + \frac{|-36|}{4} =$ _____

9) $|-42 + 7| \times \frac{|-2\times5|}{10} =$ _____

10) $6 - |17 - 11| - |5| =$ ____

11) $|13| - \frac{|-54|}{6} =$ _____

12) $\frac{|9\times-4|}{12} \times \frac{|-45|}{9} =$ _____

13) $|-75 + 50| \times \frac{|-4\times5|}{5} =$ ____

14) $\frac{|-26|}{13} \times \frac{|-32|}{8} =$ _____

15) $14 - |8 - 18| - |-12| =$ ____

16) $|29| - \frac{|-20|}{5} =$ _____

17) $\frac{|3\times8|}{2} \times \frac{|-33|}{3} =$ _____

18) $|-45 + 15| \times \frac{|-12\times5|}{6} =$ ____

19) $\frac{|-50|}{5} \times \frac{|-77|}{11} =$ _____

20) $12 - |2 - 7| - |15| =$ _____

21) $|18| - \frac{|-45|}{15} =$ _____

22) $\frac{|7\times8|}{4} \times \frac{|-48|}{12} =$ _____

23) $\frac{|30\times2|}{3} \times |-12| =$ _____

24) $\frac{|-36|}{9} \times \frac{|-80|}{8} =$ _____

25) $|-30 + 9| \times \frac{|-8\times5|}{8} =$ _____

26) $|16| - \frac{|-18|}{3} =$ _____

27) $12 - |10 - 24| + |5| =$ ____

28) $|-38 + 8| \times \frac{|-5\times6|}{10} =$ _____

Proportional Ratios

Solve each proportion for x.

1) $\frac{4}{7} = \frac{8}{x}, x = _____$

2) $\frac{9}{12} = \frac{x}{8}, x = _____$

3) $\frac{3}{5} = \frac{12}{x}, x = _____$

4) $\frac{3}{10} = \frac{x}{50}, x = _____$

5) $\frac{3}{11} = \frac{15}{x}, x = _____$

6) $\frac{6}{15} = \frac{x}{45}, x = _____$

7) $\frac{6}{19} = \frac{12}{x}, x = _____$

8) $\frac{7}{16} = \frac{x}{32}, x = _____$

9) $\frac{18}{21} = \frac{54}{x}, x = _____$

10) $\frac{13}{15} = \frac{39}{x}, x = _____$

11) $\frac{9}{13} = \frac{72}{x}, x = _____$

12) $\frac{8}{30} = \frac{x}{180}, x = _____$

13) $\frac{3}{19} = \frac{9}{x}, x = _____$

14) $\frac{1}{3} = \frac{x}{90}, x = _____$

15) $\frac{25}{45} = \frac{x}{9}, x = _____$

16) $\frac{1}{6} = \frac{9}{x}, x = _____$

17) $\frac{7}{9} = \frac{63}{x}, x = _____$

18) $\frac{54}{72} = \frac{x}{8}, x = _____$

19) $\frac{32}{40} = \frac{4}{x}, x = _____$

20) $\frac{21}{42} = \frac{x}{6}, x = _____$

21) $\frac{56}{72} = \frac{7}{x}, x = _____$

22) $\frac{1}{14} = \frac{x}{42}, x = _____$

23) $\frac{5}{7} = \frac{75}{x}, x = _____$

24) $\frac{30}{48} = \frac{x}{8}, x = _____$

25) $\frac{36}{88} = \frac{9}{x}, x = _____$

26) $\frac{62}{68} = \frac{x}{34}, x = _____$

27) $\frac{42}{60} = \frac{x}{10}, x = _____$

28) $\frac{8}{9} = \frac{x}{108}, x = _____$

29) $\frac{40}{6} = \frac{x}{3}, x = _____$

30) $\frac{88}{121} = \frac{x}{11}, x = _____$

31) $\frac{10}{24} = \frac{x}{48}, x = _____$

32) $\frac{32}{80} = \frac{x}{10}, x = _____$