

Algebra I Exit Exam Review Sheet

Test Format: 50 multiple choice questions with a supplement of 10 free response questions.

Topics tested include but are not limited to:

Absolute Value Equations
Add and subtract polynomials
Arithmetic sequences
Box and Whisker plot
Distance formula
Evaluating functions
Factoring polynomials
Geometric sequences
Graphing equations
Graphing inequalities
Graphing linear inequalities
Inequalities
Linear equations from two points
Multiply polynomials
Multiplying polynomials
Odds
Operations with Matrices
Order of operations
Percent of change
Probability
Properties of algebra
Proportions
Quadratic equations
Quadratic formula
Real number system
Scientific notation
Simplifying monomials
Simplifying radical expressions
Solving equations
Solving formulas
Stem and Leaf plot
Systems of equations
Systems of inequalities
Transformations
Translating words to symbols
Trigonometric ratios

Vocabulary tested includes but is not limited to:

“Is less than”
“Less than”
Absolute value

Arithmetic sequence
Ascending order
Associative property
Binomial
Commutative property
Cosine
Descending order
Dilation
Dividend
Divisor
Evaluate
Expression
Geometric sequence
Identity property
Inequality
Integers
Irrational numbers
Lower quartile
Matrix
Mean
Median
Mode
Monomial
Odds
Polynomial
Probability
Product
Quotient
Range
Rate of change
Rational numbers
Real numbers
Reflexive property
Replacement set
Right circular cone
Rotation
Scalar multiplication
Simplify
Sine
Solution
Solve
Sum
Tangent
Trinomial
Upper quartile
Vertex/vertices

Formulas

Distance
Quadratic formula
Pythagorean Theorem
Slope formula
Standard form
Slope-Intercept form
Point-Slope form
Trigonometric Ratios

Sample problems:

Evaluate

1) $-6(5 + 4 \cdot -3) - 10 \cdot 2$

2) $\frac{x + -y}{3z}$ for $x = 2, y = -4, z = 7$

3) Translate the following sentence into an equation: The product of 3 and a number is 7 more than twice a number.

4) Find the probability of the following event: A bag contains 3 red, 4 blue, and 8 white marbles. Jorge reaches in without looking. What is the probability he will choose a blue marble? A blue or a white marble? A blue and a white marble?

5) From the situation above, what are the odds that Jorge chooses a white marble?

Solve:

6) $6x - 3 + 2x = 12 - x$

7) $\frac{-4x - 8}{3} = 10$

8) $-3(x - 9) + 2 = 22$

9) $x^2 + 7x + 12 = 0$

10) $|-7x + 2| = 9$

11) $x^2 + 13x = 7$

Simplify:

12) $\frac{3x^2y^{-7}z}{4x^5y^3z^4}$

Find the distance between:

13) (3, 4), (-12, 5)

Evaluate:

14) If $h(x) = 3x^2 - 10x$, find $h(-2)$

Write a linear equation in slope-intercept form

15) (5, 9), (6, 12)

Multiply:

16) $(3x - 8)(2x + 4)$

17) $(5x - 8)^2$

Graph:

18) $y = -3x - 4$

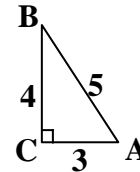
19) $4x + 2y = 5$

20)
$$\begin{cases} y \leq 2x - 3 \\ y > -x + 2 \end{cases}$$

Draw a box and whisker plot for the following set of data:

21) 18, 27, 34, 52, 54, 59, 61, 68, 78, 82, 85, 87, 91, 93, 100

22) Using the drawing to the right, write the ratios of $\sin B$, $\cos B$, and $\tan B$.



Simplify:

23) $\sqrt{24x^5y^6z^{10}}$

Arrange in descending order in terms of x .

24) $5x^3y^4 + 7xy + -4x^5y + 2x^2y^7$

Find the difference

25) $(4x^2 - 3x + 8) - (-5x^2 - 10)$

Factor

26) $3x^2 + x - 24$

Factor completely

27) $3x^2 - 147$

Simplify

28) $4\sqrt{3} - 2\sqrt{2} + -7\sqrt{3} + 9\sqrt{2}$