

*SKILLS LIST and SAMPLE ITEMS*

FOR

**PRACTICE TEST FOR MATHEMATICS, GRADE 11**  
(Test items developed for skills measured in ALABAMA\*)

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Skills

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|--|---|
| 1.0 Algebra                                      | 6.0 Problem Situations  |
| 1.1 Apply Order of Operations                    | 6.1 Translate Verbal or Symbolic;<br>Graph: Equations, Inequalities |
| 1.2 Add and Subtract Polynomials                 | 7.0 Use Algebra and Geometry<br>Concepts                            |
| 1.3 Multiply Polynomials                         | 7.1 Apply Properties and<br>Relationships Between Angles            |
| 1.4 Factor Polynomials                           | 7.2 Apply Pythagorean Theorem                                       |
| 2.0 Equations and Inequalities                   | 7.3 Apply Properties of Similar<br>Polygons                         |
| 2.1 Solve Multi-Step Equations                   | 7.4 Apply Properties of Geometric<br>Figures                        |
| 2.2 Solve Quadratic Equations                    | 7.5 Determine Measures of Central<br>Tendency                       |
| 2.3 Solve Systems of Linear<br>Equations         | 7.6 Determine Probabilities   |
| 2.4 Solve Multi-Step Inequalities                | 7.7 Solve Problems: Direct<br>Variation                             |
| 3.0 Apply Concepts Related to<br>Functions       | 7.8 Solve Problems: Algebraic<br>Concepts                           |
| 3.1 Identify Functions                           |   |
| 3.2 Find the Range of Functions                  |   |
| 4.0 Apply Formulas                               |   |
| 4.1 Perimeter, Circumference,<br>Area, Volume    |   |
| 4.2 Distance, Midpoint, Slope                    |   |
| 5.0 Graphing Techniques                          |   |
| 5.1 Graph: Linear Equations;<br>Common Relations |   |
| 5.2 Graph Lines                                  |   |
| 5.3 Determine Solution Sets of<br>Inequalities   |   |
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Number of questions: 100

Number of pages: 14

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(OVER)

# ALABAMA PRACTICE TEST IN MATHEMATICS - GRADE 11

1.  $(-2a)^3 \times (-2a^3) =$

- A.  $16a^6$
- B.  $4a^{-6}$
- C.  $16^9$
- D.  $64a^3$

2.  $(4 \times 8) - 4 \times 5 + 6 =$

- A. -12
- B. 18
- C. 39
- D. 86

3. Simplify:  $2(3 - 7) \times (4 + 5^2) =$

- A. -322
- B. -232
- C. 231
- D. 232

4.  $-3[5 - (-2)]^2 =$

- A. 147
- B. -147
- C. 11
- D.  $36^{-2}$

5.  $3x^2 - 5 + 5x^2 - 2 =$

- A.  $8x^2 - 3$
- B.  $7x + 8^2$
- C.  $15x^2 - 7$
- D.  $8x^2 - 7$

6.  $(2x + 3y) + (-6x + 5y) =$

- A.  $-4x - 8y + 2y$
- B.  $-4x + 8y$
- C.  $-6x + 4y$
- D.  $8y + 4x$

7. Simplify:  $4(x^2 + 3) - 6(2x^2 - 3) =$

- A.  $8x - 30$
- B.  $8x^2 + 30$
- C.  $-8x^2 - 30$
- D.  $-8x^2 + 30$

8. Simplify:  $\frac{1}{2}p + \frac{1}{2}q + 2(\frac{1}{4}p + \frac{1}{6}q)$

- A.  $p + \frac{5}{6}q$
- B.  $\frac{1}{2}p + \frac{5}{6}q$
- C.  $p + \frac{1}{3}q$
- D.  $1p + 5q$

9. Simplify:  $(3x - 5)(3x + 5) =$

- A.  $9x^2 - 25$
- B.  $9x^2 + 30x - 25$
- C.  $9x^2 - 30x - 25$
- D.  $9x^2 + 25$

10. Simplify:  $(\frac{4}{9})(y) \times (\frac{9}{4})(y) =$

- A.  $y$
- B.  $y^2$
- C.  $4y$
- D.  $9y$

11. Simplify:  $(6x - 7)(x - 2)$

- A.  $6x^2 + 5x - 14$
- B.  $6x^2 - 5x + 14$
- C.  $6x^2 - 19x + 14$
- D.  $6x^2 + 14$

12. Simplify:  $(7p)(4q) - (6p)(4q)$

- A.  $28p - 24q$
- B.  $4pq$
- C.  $28q - 24p$
- D.  $28pq$

13. Factor:  $16x^2 - 81y^2$

- A.  $(4x - 9y)^2$
- B.  $(4x - 9y)(4x + 9y)$
- C.  $(4x + 9y)^2$
- D.  $(4x - 9y)(2x - 3y)$

14. Factor:  $7x^2 - 6x - 1$

- A.  $(7x + 1)(x - 1)$
- B.  $(7x - 1)(x + 1)$
- C.  $(7x + 1)(x + 1)$
- D.  $(7x - 1)(x - 1)$