

Algebra II: 3rd Quarter Exam Review Sheet

The test is divided up into nine sections.

Section I: Diagramming Ellipses

- [2] from standard elliptical form
- [3] by completing the square
- [4] by completing the square

Section II: Diagramming Hyperbolas

- [2] from standard hyperbolic form
- [3] by completing the square
- [4] by completing the square

Section III: Systems of equations

- [2] linear systems in three variables
- [3] systems of quadratic inequalities
- [4] systems of quadratic equations

Section IV: Exponents

- [2] simplifying an expression with rational exponents
- [3] solving an equation with rational exponents
- [4] solving for a rational exponent

Section V: Logarithms

- [2] simplifying a logarithm
- [3] solving a logarithmic equation
- [4] solving a natural logarithmic equation

Section VI: Logarithm Word Problems

- [2] exponential growth, decay & interest problems
- [3] exponential growth, decay & interest problems
- [4] exponential growth, decay & interest problems

Section VII: Arithmetic Sequences and Series

- [2] finding a specified term
- [3] writing in sigma notation
- [4] calculating a sum

Section VIII: Geometric Sequences and Series

- [2] finding a specified term
- [3] writing in sigma notation
- [4] calculating a sum

Section IX : Trigonometry & Triangles

- [2] solving a right triangle
- [3] solving an acute or obtuse triangle
- [4] applications

Algebra II : 3rd Quarter Exam Score-to-Grade Conversions Sheet

Raw Score	% Grade
36	100
35.5	95
35	90
34.5	89
34	88
33.5	88
33	87
32.5	86
32	86
31.5	85
31	84
30.5	84
30	83
29.5	83
29	82
28.5	82
28	81
27.5	81
27	80
26.5	79
26	79
25.5	78
25	78
24.5	77
24	77
23.5	76
23	76
22.5	75
22	74
21.5	74
21	73
20.5	73
20	72
19.5	72
19	71
18.5	71
18	70

Raw Score	% Grade
17.5	69
17	69
16.5	68
16	68
15.5	67
15	67
14.5	66
14	66
13.5	65
13	64
12.5	64
12	63
11.5	63
11	62
10.5	62
10	61
9.5	61
9	60
8.5	56
8	53
7.5	50
7	46
6.5	43
6	40
5.5	36
5	33
4.5	30
4	26
3.5	23
3	20
2.5	16
2	13
1.5	10
1	6
.5	3
0	0

Sample 4 point problems

1. $4y^2 - 12x + 20y + 33 = 0$
2. $12x^2 + 7y^2 - 120x - 28y + 307 = 0$
3. $3x^2 - 20y^2 + 12x - 120y - 183 = 0$
4. $100x^2 - 120x + 500y + 411 = 0$
5. $9x^2 + 8y^2 + 18x + 80y + 173 = 0$
6. $30y^2 - 4x^2 - 180y - 16x + 230 = 0$

$$\begin{aligned}
 1. \quad & \left(y + \frac{2}{5} \right)^2 - \frac{3}{2} \left(x - \frac{3}{2} \right) = 1 \\
 2. \quad & \left(x - \frac{5}{2} \right)^2 + \left(y - 2 \right)^2 = 1 \\
 3. \quad & \left(x + 2 \right)^2 - \frac{5}{3} \left(y + 3 \right)^2 = 1 \\
 4. \quad & \left(x - \frac{3}{2} \right)^2 - 5 \left(y + \frac{4}{3} \right) = 1 \\
 5. \quad & \left(x + 1 \right)^2 + \left(y + 5 \right)^2 = 1 \\
 6. \quad & \left(y - 3 \right)^2 - \frac{4}{3} \left(x + 2 \right)^2 = 1
 \end{aligned}$$