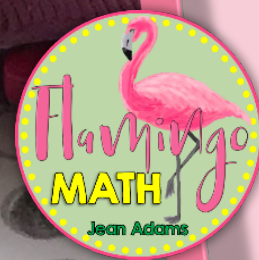
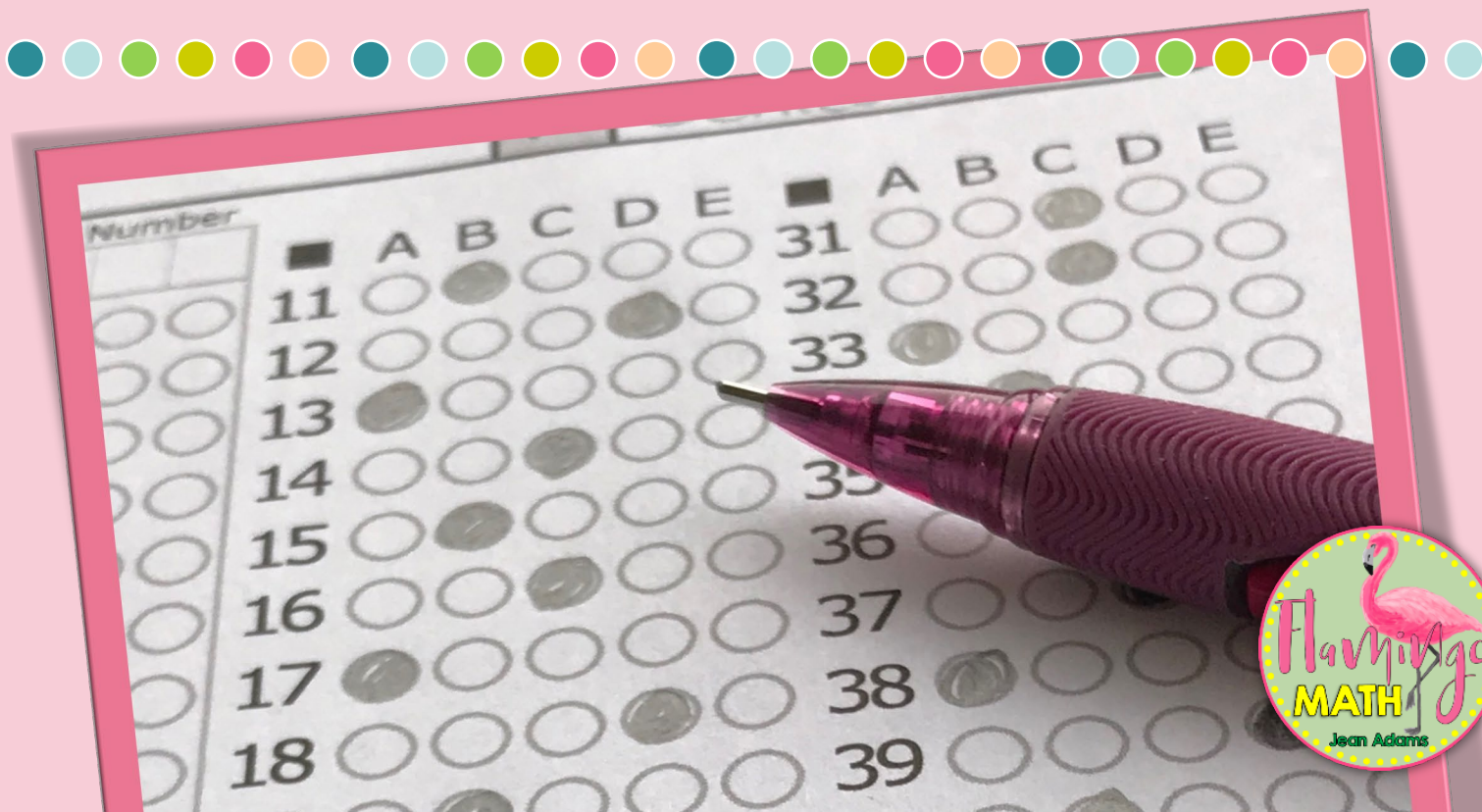


Algebra 2 Honors

Final Exam and Review



Editable Assessments

Algebra 2 Honors Final Exam



This resource is designed for an Algebra 2 Honors course.

Product Overview

YEAR-END REVIEW & FINAL EXAM

Here is a comprehensive review packet of 100 questions for your Algebra 2 Honors students to prepare for their Final Exam. The answers are included at the end of the packet so students will know they are on the right path.

There is a 50-question multiple-choice exam with answer key included. The content covers units 1-10 in my full year curriculum.

There is also a MICROSOFT WORD® version of the form that is fully editable if you need to adjust the questions to meet your district and personal needs.

You will also find a 50-question ZIP GRADE PDF document if you need one.

There are 26 pages of rigorous material to prepare your students and test them at a level that lets you know their true abilities for the entire course.

Teacher Notes – Using the Resource

All review assignments, quiz, and test items are both in PDF format and Microsoft Word for creating and altering items to meet your teaching needs, *minimize your prep time, and offer a variety of assessment instruments..*

ALGEBRA 2 END-OF-COURSE REVIEW

- To which sets of numbers does the number $\sqrt{48}$ belong?
- Solve the equation for the indicated variable. $S = 6\pi^2r$, for t .
- Solve for x . State any restrictions on the variables. $b = \frac{c}{x}$
- Solve for x . State any restrictions on the variables. $bx + cy = d$
- Write an equation of the line, in standard form, passing through the point $(0, -2)$ with the given slope. $m = -\frac{2}{3}$
- Write an equation for the line which passes through $(-8, 3)$ and is perpendicular to $x - 2y = 8$.
- Find the distance between $(-5, 1)$ and $(-1, 6)$. If necessary, round to the nearest tenth.
- Find the midpoint M , of the segment with endpoints $C(4, 4)$ and $D(-2, 6)$.
- For $P(x) = 3x^4 - x^2 + 4x^2 + 17x - 12$, find $P(-4)$.
- Suppose $f(x) = 4x - 2$ and $g(x) = -2x + 1$. Find the value of $\frac{f(-5)}{g(0)}$
- Let $f(x) = 5x + 6$ and $g(x) = 3x - 4$, find $(f + g)(x)$. Be able to subtract, multiply and divide, as well.
- Let $f(x) = 4x - 6$ and $g(x) = 3x + 5$. Find $f(g(x))$ and $(g \circ f)(x)$
- Solve the inequality. Graph the solution set. Describe the solution set using set builder or interval notation. $4(2b - 4) < -27 + 8b$
- Solve $|d + 2| \geq 3$. Graph the solutions.
- Solve the compound inequality. Graph the solution set. $10x + 12 \geq -38$ and $10x - 7 \leq 3$
- Solve the compound inequality. Graph the solution set. $10x - 15 < 15$ or $7x + 4 > 46$
- Graph the inequality. $-x + 2y > -3$
- Graph the absolute value equation. $y = |3x + 3|$
- Write the equation that is the translation of $y = |x|$ left 3 units and up 8 units.

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- A rental car agency charges a flat fee of \$32.00 plus \$1.75 per day to rent a certain car. Another agency charges a fee of \$18.00 plus \$3.75 per day to rent the same car.
 - Write a system of equations to represent the cost c for renting a car at each agency for d days.
 - Using a graphing calculator, substitution or elimination methods. Find the number of days for which the costs are the same.
- Solve the system of equations.

$$\begin{cases} -2x + 2y = -14 \\ x - y = 7 \end{cases}$$
- $$\begin{cases} 3x - 2y + z = 0 \\ -x + 3y - z = -7 \\ 3x - y - z = -3 \end{cases}$$
- Solve the system of inequalities by graphing $\begin{cases} y \leq -4x + 2 \\ y > x - 1 \end{cases}$
- Solve the equation. $5(y + 3) + 2(8 - 3y) = -3$
- Solve the equation. $-3(a + 7) - 7 = -24$
- Solve the equation. $36x^2 + 25 = 0$
- Solve the equation. $x^2 + 4x + 4 = 36$
- Solve the equation. $\sqrt{x + 8} - 7 = -5$
- Solve the equation. $\frac{1}{3} + \frac{2}{3} = \frac{1}{3}$
- Factor the expression. $m^2 + 8m - 9$
- Factor the expression. $15x^2 - 16xy + 4y^2$
- Solve the inverse of $y = 3x^2 + 6$.
- Graph $y = 3x^2 - 2$ and its inverse.
- Find the zeros of $y = x(x + 2)(x + 5)$. Then graph the equation.
- Divide $3x^2 + 3x^2 - 4x + 2$ by $x + 2$
- Find the roots of the polynomial equation. $x^2 - 4x^2 + 9x - 36 = 0$

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- Graph the function. $y = -\frac{4}{x}$
- Graph the function. $y = \sqrt{x} - 3$
- Graph: $y \leq 3x^2 - 4x - 2$
- Find the domain and range of each relation and determine whether it is a function.
 -
 -
 -
- Determine whether y varies directly with x . If so, find the constant of variation k . $-5y = x$
- Find the value of y for a given value of x , if y varies directly with x . If $y = 64$ when $x = 320$, what is y when $x = 1407$?
- Suppose that y varies directly with x and inversely with z . If $y = 30$ when $x = 9$, and $z = 3$. Write the equation that models the relationship. Then find y when $x = 4$ and $z = 2$.
- Simplify. $27\frac{2}{3}$
- Simplify $8\sqrt[3]{20}$
- Write $(3^{1/3})^2$ in radical form.
- Simplify the radical expression. $\sqrt{162} + \sqrt{8} - \sqrt{2}$
- Write $(8a^{-9})^{-2/3}$ in simplest form.
- Multiply. $(-3 - \sqrt{5})(6 + \sqrt{5})$
- Simplify $(-2 + \sqrt{10})^2$
- Rationalize the denominator of the expression. Assume that all variables are positive. $\frac{9x-9}{\sqrt{4x}-\sqrt{6}}$

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- Simplify $\sqrt{-28}$
- Simplify the expression. $(3 + 5) + (-3 - 6)$
- Simplify the expression. $(2 + 3)(-4 + 6)$
- *REMINDER: Review all operations with complex numbers.**
- Write the equation in logarithmic form. $2^8 = 256$
- Write the equation $\log_2 8 = \frac{3}{2}$ in exponential form.
- Write the expression as a single logarithm. $4\log_5 x + 6\log_5 q$
- Evaluate the logarithm. $\ln e^{12}$
- Evaluate the logarithm. $\log_9 9$
- Solve $3\log 2x = 4$. Round to the nearest thousandth.
- Solve $\ln(2x + 5) = 5$. Round to the nearest thousandth.
- *REMINDER: Review all properties of logarithms.**
- Simplify the rational expression. State any restrictions on the variable. $\frac{a^2-5a-6}{a+1}$
- Multiply or divide. State any restrictions on the variables. $\frac{a^2-16}{a+4} \cdot \frac{a^2+5a+4}{a^2-2a+4}$
- Perform the indicated operation. Simplify if possible. $\frac{3^{1+2b+2c}}{3^{1+2b+2c}} \cdot \frac{8}{3^{1+2b+2c}}$
- Solve the equation. Check the solution. $\frac{8}{x+2} - \frac{-5}{x-5} = 1$
- Solve the equation. Check the solution. $\frac{8}{x+2} - \frac{1}{x-5} = 1$
- Find the 50th term of the sequence $5, -2, -9, -16, \dots$
- Find the arithmetic mean a_n of $a_{n-1} = \frac{5}{2}$. $a_{n+1} = \frac{5}{2}$
- The sequence $(15, 18, 21, 24, 27, \dots, 45)$ has 11 terms. Evaluate the related series.
- Evaluate the series $6, -24, 96, -384, \dots$ to 5 .

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- Graph each line as described.
 - through $(2, 5)$ and parallel to the line whose slope is $\frac{2}{3}$
 - through $(-1, 4)$ and perpendicular to the line whose slope is 3.
- Evaluate each expression. Express the result in scientific notation.
 - $\frac{34.96 \times 10^{11}}{7 \times 10^8}$
 - $(2.7 \times 10^{-4})(3.2 \times 10^{12})$
- Write an equation for a parabola with a vertical axis of symmetry whose vertex is $(-1, 5)$ and passes through the point $(2, -4)$.
- Write an equation for the parabola in vertex form. Identify the vertex, axis of symmetry, and direction of opening: $y = -2x^2 + 12x - 11$
- Write the function that models the relationship. y varies jointly as x and z . If $y = 60$, $x = 2$ and $z = 3$. Find y when $x = 4$ and $z = 9$.
- Factor completely. $24x^2d^2 + 40c^2d^4$
- Factor completely. $3x^2 + 3x - 60$
- The Martins bought a condo for \$85,000. Assuming that the value of the condo will appreciate at most 4% a year, how much will the condo be worth in 5 years?
- Find a_1 for the given geometric series. $S_n = 315$, $r = 0.5$ and $n = 6$.
- A child will receive \$5 on his 5th birthday from his grandmother. On his 6th he will receive \$8 and on his 7th he will get \$11. How much will he receive on his 21st birthday?
- Write an equation in slope-intercept form that satisfies the following condition: passes through the points $(1, 9)$ and $(6, 2)$.
- Graph the given relation or equation. Find the domain and range. Determine whether the relation or equation is a function: $y = 2x - 1$.
- Simplify the radical. $\sqrt{-338x^{13}y^{27}}$
- Determine whether the given function has a maximum or a minimum value. Then, find the maximum or minimum value of the function. Find the y -intercept and the equation of the axis of symmetry. $f(x) = -2x^2 + 10x + 7$
- Given a polynomial $3x^3 + 10x^2 - x - 12$ and one of its factors $x + 3$, find the remaining factors of the polynomial.

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- A bricklayer can build a wall of a certain size in 5 hours. Another bricklayer can do the same job in 4 hours. Write an equation that can be used to find how long it will take them working together to build the wall. How many hours will it take them to build the wall? If necessary, round your answer to the nearest hundredth.
- Find S_6 for the given geometric series. $a_1 = 2$, $r = 3$
- Review for Honors only:**
- The length of a rectangle is 8.4 more than 3 times the width. If the perimeter of the rectangle is 58.6 cm, What are its dimensions?
- Compare the graphs of the pair of functions. Describe how the graph of the second function relates to the graph of the first function: $y = -3|x|$ and $y = -3|x| + 2$
- Use the Rational Root Theorem to list all possible rational roots of the polynomial equation: $x^3 - 2x^2 + 5x - 10 = 0$.
- Your grandfather gives you \$500 for graduation. If you invest the money at 5.2% per year compounded continuously, how much would you have in the account after 12 years?
- Solve. Round answers to the nearest ten-thousandth. $7^{2k} = 20$.
- Solve. Round to the nearest ten-thousandth. $\log_6(x^2 + 36) - \log_6 100 = 0.7$
- Identify any asymptotes and/or holes. $y = \frac{8x^2+4x-2}{10x^2+12x+12}$
- Jerry's little sister likes to swing. Jerry pulled back the swing and let it go. If the swing made an arc of 9 ft the first time and 4.4 ft, the third time, how long was the second arc?
- For the series, find the first and last terms: Evaluate.

$$\sum_{n=1}^{10} (n - 3)$$
- Identify the vertex, focus and directrix of: $x^2 + 24y - 8x = -16$
- Given the following information, write the equation of the circle in standard form: Center: $(2, 1)$ through the point, $(6, 1)$.
- Write the equation of the ellipse in standard form with center at the origin, and major vertices at $(-6, 0)$ and $(0, 5)$.
- Write the equation of the hyperbola with foci at $(\pm 5, 0)$ and vertices at $(\pm 3, 0)$

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ALGEBRA 2 HONORS FINAL EXAM

Name _____
Date _____ Period _____

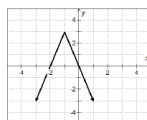
Work each question carefully. Then, choose the letter that corresponds to the best answer.

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Border: From the Pond

ALGEBRA 2 HONORS FINAL EXAM

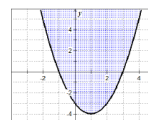
- Which expression is equivalent to $-8(a - 3b) + 2(-a + 4b + 1)$?
 - $-10a - 16b + 2$
 - $-10a + 32b + 2$
 - $-10a + 5b + 2$
 - $-10a + b + 1$
- A variable y varies directly with the square of x . If $x = 6$ when $y = 8$, find the constant of proportionality, k .
 - $\frac{2}{9}$
 - $\frac{4}{9}$
 - 288
 - $9\sqrt{6}$
- What is the solution of the inequality $|x - 2| - 3 \leq 2$?
 - $x \leq -3$ or $x \geq 7$
 - $-3 \leq x \leq 2$
 - $-3 \leq x \leq 7$
 - $x \leq -7$ or $x \geq 7$
- Which equation is shown in the graph at right?
 - $y = 3|x + 1| - 3$
 - $y = 3|x + 1| + 3$
 - $y = -3|x - 1| + 3$
 - $y = -3|x + 1| + 3$



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- A meteorologist predicts the daily high and low temperatures for Memorial Day as 92°F and 70°F. If t represents the temperature, then this situation can be described with the inequality $70 \leq t \leq 92$. Which of the following absolute value inequalities is an equivalent way of expressing this statement?
 - $70 \leq |t| \leq 92$
 - $|t - 81| \leq 11$
 - $|t - 70| \leq 92$
 - $|t - 11| \leq 81$
- Which inequality best describes the graph?
 - $y > x^2 + 2x - 3$
 - $y \leq x^2 + 2x - 3$
 - $y \geq x^2 - 2x - 3$
 - $y < x^2 - 2x - 3$
- Let $f(x) = x - 3$ and $g(x) = 2x^2 - 6$. What is $g(f(x))$?
 - $2x^3 - 12x + 12$
 - $2x^3 - 6x^2 - 6x + 18$
 - $2x^2 - 9$
 - $2x^2 - 12$
- Given $f(x) = 2x^2 - 5$, find $f^{-1}(x)$.
 - $\frac{15x+5}{2}$
 - $2x^2 - 5$
 - $\frac{1}{2x^2 - 5}$
 - $\sqrt{\frac{5x+5}{2}}$



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9. If the temperature of a gas is held constant, the pressure P varies inversely as the volume V . A pressure of 1520 lb per in^2 is exerted by 4 ft³ of air in a cylinder fitted with a piston. Find k .

[A] 5280 [B] 330 [C] $\frac{1}{5280}$ [D] $\frac{1}{330}$

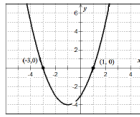
10. The function below can be used to find the total amount $C(x)$ an electric company charges a customer who uses x kilowatt-hours (kWh) in a month.
- $$C(x) = \begin{cases} 0.07275x + 4.60; & 0 \leq x \leq 400 \\ 0.05535x + 35.10; & x > 400 \end{cases}$$

If a customer uses 546 kWh in any given month, what is the total amount charged?

[A] \$45.72 [B] \$65.32 [C] \$78.28 [D] \$111.04

11. The graph of a quadratic function $f(x)$ is shown at right. What is the solution of $f(x) < 0$?

[A] $-3 < x < 1$
[B] $-3 \leq x \leq 1$
[C] $x < -3$ or $x > 1$
[D] $x \leq -3$ or $x \geq 1$



12. What is the end behavior of the graph of a polynomial function $f(x) = -2x^5 + x^4 + 3x^3 - x + 1$?

[A] down and down
[B] down and up
[C] up and down
[D] up and up

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13. Solve: $x^2 + 10x + 29 = 0$

[A] $\{5 + 4i, 5 - 4i\}$ [B] $\{5 + 2i, 5 - 2i\}$
[C] $\{-5 + 2i, -5 - 2i\}$ [D] $\{-5 + 4i, -5 - 4i\}$

14. Describe the nature of the roots of the equation: $4x^2 - 4x - 6 = 0$

[A] two real roots
[B] two imaginary roots
[C] one real root
[D] one real root and one imaginary root

15. Determine whether the degree of the function shown at right is odd or even. How many real zeros does the function have?

[A] odd; 3 zeros
[B] even; 3 zeros
[C] odd; 4 zeros
[D] even; 4 zeros



16. The graph of the exponential equation $y = 2^x$ is reflected across the y -axis and shifted down 1 unit. What is the equation of the resulting graph?

[A] $y = 2^{-x-1}$ [B] $y = 2^{-x} - 1$ [C] $y = -2^{x-1}$ [D] $y = -2^x - 1$

17. How many distinct real roots does the equation $x^4 + 3x^3 - 4x = 0$ have?

[A] 1 [B] 2 [C] 3 [D] 4

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18. One zero of $p(x) = x^2 - 4x^2 - 2x + 8$ is $\sqrt{2}$. Which of the following is another zero?

[A] 4 [B] -1
[C] $2 + i$ [D] $2 - i$

19. The function $C(x) = \frac{-18}{3x+9}$ can be used to find the concentration $C(x)$ in mg/L of a certain drug in the bloodstream of a patient x hours after the injection is given. In approximately how many hours after the injection will the concentration of the drug be 1.5 mg/L?

[A] 0.5 hours [B] 0.7 hours [C] 1.8 hours [D] 2.3 hours

20. Solve: $x^4 - 4x^2 + 4 = 0$

[A] $\pm\sqrt{2}$ [B] $\pm 2i$ [C] $\pm\sqrt{2}$ [D] ± 2

21. Solve the equation $x^2 - 6x = 3$ by completing the square

[A] $-3 \pm 2\sqrt{3}$ [B] $3 \pm 2\sqrt{3}$
[C] $-3 \pm 3\sqrt{2}$ [D] $3 \pm 3\sqrt{2}$

22. The radical function $y = \sqrt{x}$ is reflected across the x -axis, shifted horizontally 3 units left and vertically 2 units up. Which function represents the transformation of the parent function?

[A] $y = -\sqrt{x-3} + 2$ [B] $y = -\sqrt{x+3} + 2$
[C] $y = \sqrt{x-2} + 3$ [D] $y = \sqrt{x+2} - 3$

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23. Multiply: $\sqrt{6x^2y} \cdot \sqrt{2xy^4}$

[A] $2x^2y^2\sqrt{3y}$ [B] $4x^2y^4\sqrt{3}$ [C] $4x^2y\sqrt{3}$ [D] $2xy\sqrt{3}$

24. Multiply: $(8 - \sqrt{2})(8 + \sqrt{2})$

[A] $62 - 16\sqrt{2}$ [B] 66
[C] 62 [D] $66 - 16\sqrt{2}$

25. Simplify: $2\sqrt{5} - \sqrt{25} - 9\sqrt{20}$

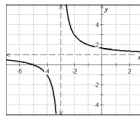
[A] $-8\sqrt{50}$ [B] $-21\sqrt{5}$
[C] $-16\sqrt{5} - 5 - 9\sqrt{20}$ [D] $-16\sqrt{5} - 5$

26. Simplify: $\frac{3}{4 + \sqrt{2}}$

[A] $\frac{12 + 3\sqrt{2}}{14}$ [B] $\frac{12 + \sqrt{2}}{14}$ [C] $\frac{12 + 3\sqrt{2}}{2}$ [D] $4 + \sqrt{2}$

27. The graph shown at right is a translation of the graph of $y = \frac{1}{x}$. What is an equation of the function?

[A] $y = \frac{3}{x+3} - 1$
[B] $y = \frac{3}{x+3} + 1$
[C] $y = \frac{3}{x-3} - 1$
[D] $y = \frac{3}{x+3} + 1$



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28. Add: $(6 + 4i) + (-4 - 5i)$

[A] $10 + 9i$ [B] $2 - i$ [C] $-4 - 46i$ [D] $2 + i$

29. Multiply: $(-5 - 6i)(5 - 3i)$

[A] $-7 - 15i$ [B] $-43 - 15i$ [C] $-43 + 45i$ [D] $-7 + 45i$

30. Divide: $\frac{4 - 11i}{2 + 3i}$

[A] $\frac{1}{13} + \frac{18}{13}i$ [B] $-\frac{1}{13} + \frac{18}{13}i$
[C] $-\frac{1}{13} - \frac{18}{13}i$ [D] $\frac{1}{13} - \frac{18}{13}i$

31. Simplify. Express the answer in simplest radical form: $2^{4/3} \cdot 2^{2/3}$

[A] $16^{\sqrt{3}}$ [B] $2^{\sqrt{3}}$ [C] $2^{5\sqrt{3}}$ [D] $16^{5\sqrt{3}}$

32. Write the equation $5^k = m$ in logarithmic form.

[A] $\log_5 5 = m$ [B] $\log_5 m = k$ [C] $\log_m 5 = k$ [D] $\log_m m = 5$

33. Which expression represents $4 \log_2 x + \log_2 y - 2 \log_2 z$ as a single logarithm?

[A] $\log_2 \frac{x^4 y}{z^2}$ [B] $\frac{\log_2 x^4 y}{\log_2 z^2}$
[C] $\log_2(4x + y - 2z)$ [D] $\log_2(x^4 + y - z^2)$

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34. Evaluate: $\log_2 216$

[A] $\frac{1}{3}$ [B] $-\frac{1}{3}$ [C] 3 [D] -3

35. Solve: $\log_3(x + 4) - \log_3(x - 2) = 2 \log_3 2$

[A] 6 [B] 9 [C] 4 [D] 8

36. Solve for x correct to four decimal places: $2^x = 3^{x+5}$

[A] -15.0000 [B] -13.5476 [C] -6.7738 [D] 3.0657

37. Which of the following is not true of the graph of $f(x) = \log_2(x - 3)$?

[A] It has an x -intercept at 4.
[B] It has a vertical asymptote at $x = 2$
[C] The point $(7, 2)$ is on the graph.
[D] It is a horizontal translation of $y = \log_2 x$.

38. Find the sum of the first 41 terms of the arithmetic sequence: 2, 4, 6, ...

[A] 1722 [B] 1729 [C] 1763 [D] 84

39. Find the sum of the first 7 terms of the geometric series: $-10 - 2 - \frac{2}{5} - \frac{2}{25} - \dots$

[A] -52 [B] -21.28 [C] -13.19 [D] -12.5

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40. Find a formula for a_n for the arithmetic sequence if $a_1 = 4$, $a_6 = 15$

[A] $a_n = \frac{11}{5}(n - 1) + 4$ [B] $a_n = 3n - 15$
[C] $a_n = \frac{11}{5}(n - 1) - 15$ [D] $a_n = \frac{11}{5}n + 4$

41. Find the sum for the infinite geometric series.

$\sum_{n=1}^{\infty} \left[-\left(\frac{3}{4}\right)^{n-1} \right]$
[A] -20 [B] 16 [C] -16 [D] undefined

42. What is the common ratio in a geometric series if $a_2 = \frac{2}{3}$ and $a_5 = \frac{16}{135}$

[A] $\frac{2}{3}$ [B] $\frac{2}{5}$ [C] $\frac{4}{135}$ [D] $\frac{4}{27}$

43. Multiply: $\frac{x+3}{x+3y} \cdot \frac{4x^2-9y^2}{4x^2+13x+3}$

[A] $\frac{2x+3y}{3x+13}$ [B] $\frac{2x^2-3y^2}{4x+1}$ [C] $\frac{2x-3y}{4x+1}$ [D] $\frac{2x-3y}{5}$

44. Divide: $\frac{2x^2+3x-2}{2x^2-5x+4} \div \frac{x^2+8x+6}{-4x^2+4x+48}$

[A] -5 [B] $x + 3$ [C] $x + 2$ [D] -4

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45. Find the least common denominator: $\frac{7}{9xy^2} + \frac{1}{8xy^3}$

[A] $72x^3y^3$ [B] $72x^3y^5$ [C] x^3y^3 [D] x^3y^7

46. Add: $\frac{x+3}{x^2+2x-3} + \frac{x+6}{x^2-9}$

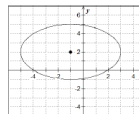
[A] $\frac{2x^2+13x+9}{(x+3)(x-3)(x-1)}; x \neq -3, 1, 3$ [B] $\frac{2x^2+x^2+9}{(x+3)(x-3)(x-1)}; x \neq -3, 1, 3$
[C] $\frac{2x^2+13x+21}{(x+3)(x-3)(x-1)}; x \neq -3, 1, 3$ [D] $\frac{2x^2+7x-21}{(x+3)(x-3)(x-1)}; x \neq -3, 1, 3$

47. Find an equation of the parabola with vertex $(0, 0)$ and directrix $x = 12$

[A] $x^2 = 48y$ [B] $x^2 = -48y$
[C] $y^2 = -48x$ [D] $y^2 = 48x$

48. Which equation represents the ellipse shown at right?

[A] $\frac{(x-2)^2}{16} + \frac{(y+2)^2}{9} = 1$
[B] $\frac{(x+2)^2}{16} + \frac{(y-2)^2}{9} = 1$
[C] $\frac{(x+2)^2}{16} + \frac{(y-2)^2}{16} = 1$
[D] $\frac{(x-2)^2}{9} + \frac{(y+2)^2}{16} = 1$



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49. The graph of $\frac{x^2}{9} - \frac{y^2}{9} = 1$ is a hyperbola. Which set of equations represents the asymptotes of the hyperbola's graph?

[A] $y = \frac{1}{2}x$; $y = -\frac{1}{2}x$ [B] $y = 2x$; $y = -2x$
[C] $x = \frac{1}{2}y$; $x = -\frac{1}{2}y$ [D] $y = \frac{1}{2}x$; $y = -\frac{1}{2}x$

50. The equation of a circle is $(x + 5)^2 + (y - 8)^2 = 81$. What are the center and radius of the circle?

[A] Center $(-5, 8)$
Radius: 9
[B] Center $(-5, 8)$
Radius: 9
[C] Center $(5, -8)$
Radius: 9
[D] Center $(5, -8)$
Radius: 9

STOP!
If time permits, check your answers.

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Algebra 2 Honors Semester Exam

Name _____ Date _____

1.	(A)	(B)	(C)	(D)
2.	(F)	(G)	(H)	(J)
3.	(A)	(B)	(C)	(D)
4.	(F)	(G)	(H)	(J)
5.	(A)	(B)	(C)	(D)
6.	(F)	(G)	(H)	(J)
7.	(A)	(B)	(C)	(D)
8.	(F)	(G)	(H)	(J)
9.	(A)	(B)	(C)	(D)
10.	(F)	(G)	(H)	(J)

11.	(A)	(B)	(C)	(D)
12.	(F)	(G)	(H)	(J)
13.	(A)	(B)	(C)	(D)
14.	(F)	(G)	(H)	(J)
15.	(A)	(B)	(C)	(D)
16.	(F)	(G)	(H)	(J)
17.	(A)	(B)	(C)	(D)
18.	(F)	(G)	(H)	(J)
19.	(A)	(B)	(C)	(D)
20.	(F)	(G)	(H)	(J)

21.	(A)	(B)	(C)	(D)
22.	(F)	(G)	(H)	(J)
23.	(A)	(B)	(C)	(D)
24.	(F)	(G)	(H)	(J)
25.	(A)	(B)	(C)	(D)
26.	(F)	(G)	(H)	(J)
27.	(A)	(B)	(C)	(D)
28.	(F)	(G)	(H)	(J)
29.	(A)	(B)	(C)	(D)
30.	(F)	(G)	(H)	(J)

31.	(A)	(B)	(C)	(D)
32.	(F)	(G)	(H)	(J)
33.	(A)	(B)	(C)	(D)
34.	(F)	(G)	(H)	(J)
35.	(A)	(B)	(C)	(D)
36.	(F)	(G)	(H)	(J)
37.	(A)	(B)	(C)	(D)
38.	(F)	(G)	(H)	(J)
39.	(A)	(B)	(C)	(D)
40.	(F)	(G)	(H)	(J)

41.	(A)	(B)	(C)	(D)
42.	(F)	(G)	(H)	(J)
43.	(A)	(B)	(C)	(D)
44.	(F)	(G)	(H)	(J)
45.	(A)	(B)	(C)	(D)
46.	(F)	(G)	(H)	(J)
47.	(A)	(B)	(C)	(D)
48.	(F)	(G)	(H)	(J)
49.	(A)	(B)	(C)	(D)
50.	(F)	(G)	(H)	(J)

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