SUMMER ASSIGNMENT MATH GRADES 11 & 12

Name: _____ Date: _____

SHOW ALL WORK ON A SEPARATE SHEET OF PAPER.

Simplify.

	Answers
1. $\dfrac{3x^{-4}y^{5}}{(2x^{3}y^{-7})^{-2}}$	1.
2. $\sqrt[3]{a^{11}b^{7}c^{9}}$	2.

Factor. .

	Answers
3. $8x^2 - 14x + 3$	3.
4. $8x^3 + 4x^2 - 18x - 9$	4.
5. $10ax^2 - 23ax - 5a$	5.
6. $a^3 + b^3$	6.

Perform the operation. .

	Answers
7. $\dfrac{2-\dfrac{4}{x}}{x-6+\dfrac{8}{x}}$	7.
8. $\dfrac{4x+8}{x+1}\cdot\dfrac{2-x}{3x-15}\div\dfrac{x^2-4}{2x^2-8x-10}$	8.

Solve. .

	Answers
9. $x^3 - 3x^2 - 4x + 12 = 0$	9.
10. $\sqrt{3x+7} - 3 = x$	10.
11. $\dfrac{x}{x-4} - \dfrac{1}{x+3} = \dfrac{28}{x^2 - x - 12}$	11.

Solve the inequality. **Answers**

12. $-6 < x-(3-4x) < -3$	12.
13. x – 6 < 3x < 2x + 5)	13.
14. –15 + |2x – 7| ≤ –6	14.
15. $x^2 - 3x \geq -2$	15.

Solve by completing the square. **Answers**

16. $3x^2 - 24x + 12 = 0$	16.

Solve using the Quadratic Formula. **Answers**

17. $x^2 - 10x + 13 = 0$	17.

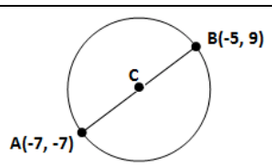
Rationalize. . **Answers**

18. $\dfrac{6}{3-\sqrt{5}}$	18.
19. $\dfrac{2+i}{4-3i}$	19.

Solve each Logarithmic and Exponential Equations. **Answers**

20. $\log_z x = \dfrac{1}{3}(\log_z p + \log_z r) - 2\log_z q$	20.
21. $\log_4(x^2+3x) - \log_4(x+5) = 1$	21.
22. $7e^{2x} - 5 = 58$	22.

Conics. **Answers**

23. Write the equation of a circle with diameter AB. 	23.
24. Write the equation of the parabola by completing the square $y^2 + 2y + 12x - 23 = 0$.	24.

Piecewise Functions . **Answers**

25. Using $f(x) = \begin{cases} x, & -3 \leq x < 0 \\ 2, & 0 \leq x < 1 \\ \sqrt{x}, & 1 \leq x < 4 \end{cases}$ find a) $f(0)$ b) $f(-3)$ c) $f(3)$	25. a) b) c)