

MTH 1112 - Test #1
SUMMER 2021

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Name _____

Show CLEARLY how you arrive at your answers.

1. Solve the equation: $\frac{x}{x+n} = \frac{n+2}{n+1}$

2. Solve the equation: $x(4x - 4) = (4x + 8)(x - 6)$

3. Solve by factoring: $16x^2 - 40x + 25$

4. Solve the equation by the square root method: $(3x + 9)^2 = 81$

5. Solve the equation using the Quadratic Formula: $4x^2 - 8x + 2 = 0$

6. Solve the equation by Completing the Square: $4x^2 - 4x - 3 = 0$

7. Write the expression in standard form $a + bi$: $(2 + i)(4 - 3i)$

8. Write the inequality using interval notation and illustrate the inequality using the real number line: $4 < x \leq 8$

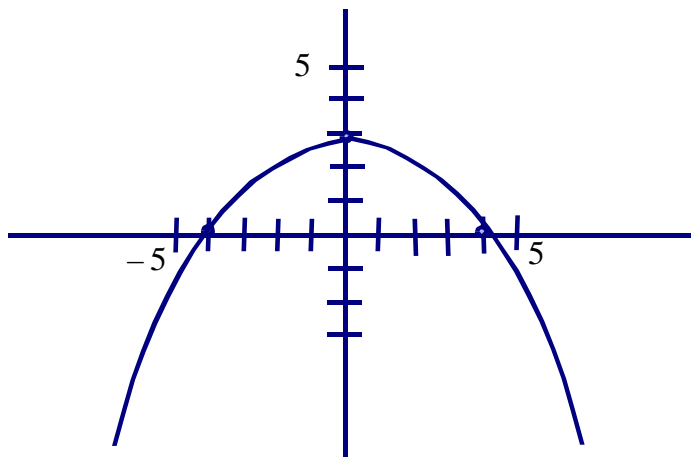
9. Solve the inequality. Express your answer using set notation or interval notation. Graph the solution set. $4 - 2x \leq -10$

10. Find the distance between the points P_1 and P_2 , if $P_1 = (2, 5)$ and $P_2 = (8, -3)$

11. The graph of an equation is given.

(a) Find the intercepts.

(b) Indicate whether the graph is symmetric with respect to the x-axis, the y-axis, the origin, or none of these.



12. For the given equation, list the intercepts and test for symmetry. $x^2 + y - 36 = 0$

13. A point on a line and its slope are given. Find the point-slope form of the equation of the line.

Point: (3, 6) Slope: 2

14. The slope m and a point P on a line are given. Use the information to find two additional points on the line.

Point: $(3, 6)$ Slope: 2

15. Find the slope and y -intercept of the line. Graph the line. $\frac{1}{3}y = x + 2$