

MAT 150 – Homework 7
Sections 2.3 and 2.4

NAME _____

Directions: Show all work and write your final answer in the space provided.

1. Find the real zeros of $f(x) = 6x^2 - 7x - 5$ by factoring. 1. _____

2. Find the maximum value of $g(x) = -2x^2 + 8x + 3$. 2. _____

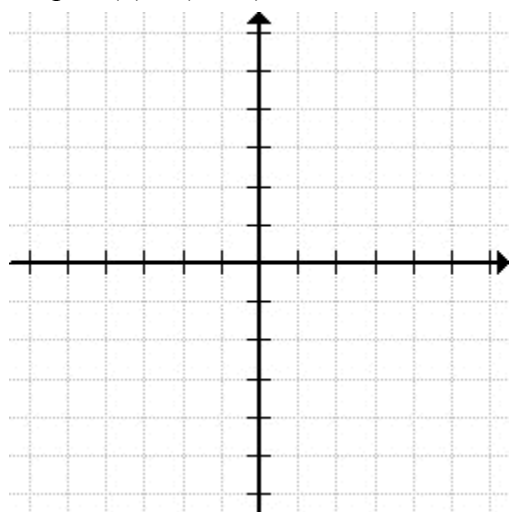
3. Find the real zeros of $f(x) = 2(x - 3)^2 - 7$ using the Square Root Principle. 3. _____

4. Find the real zeros of $f(x) = x^2 - 8x - 4$ by completing the square. 4. _____

5. If $f(x) = 3x^2 - 7$ and $g(x) = 10x + 1$, find the points of intersection. 5. _____

6. Find the real zeros of $f(x) = 11x^2 - 9x - 1$ by using the quadratic formula. 6. _____

7. Graph $h(x) = (x - 2)^2 - 4$ and find each of the following:



Vertex: _____

x-intercept: _____

y-intercept: _____

Domain: _____

Range: _____

8. Find the real zeros of $f(x) = -2x^2 + 20x + 7$ by completing the square. 8. _____

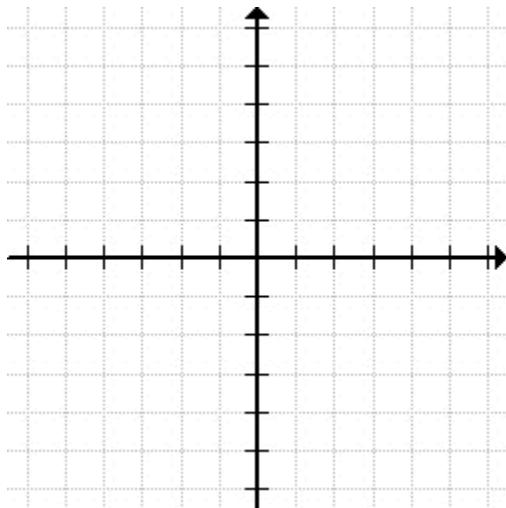
9. Find the vertex of $g(x) = 4x^2 - 7x - 5$. 9. _____

10. Find the real zeros of $f(x) = 5x - 4x^2 + 5$ by using the quadratic formula. 10. _____

11. Find the real zeros of $f(x) = 6x^2 + 7x - 20$. 11. _____

12. If $f(x) = x^2 + 5x - 3$ and $g(x) = 2x^2 + 7x - 27$, find the points of intersection. 12. _____

13. Graph $h(x) = -3x^2 + 3x - 2$ and find each of the following:



Vertex: _____

x-intercept: _____

y-intercept: _____

Domain: _____

Range: _____

14. Find the real zeros of $g(x) = 3x^4 - 2x^2 - 1$. 14. _____

15. Determine over what intervals the function $f(x) = 2x^2 - 6x$ is increasing or decreasing. Increase: _____

Decrease: _____

16. Find the real zeros of $h(x) = 3(x + 5)^2 - 22$. 16. _____

17. Find the real zeros of $g(x) = \frac{3}{4}x^2 - \frac{1}{3}x - \frac{5}{6}$. 17. _____

18. Find the real zeros of $h(x) = (2x + 5)^2 - (2x + 5) - 6$. 18. _____

19. Find the real zeros of $f(x) = \frac{1}{2}x^2 - \sqrt{2}x - 1$. 19. _____

20. Find the real zeros of $f(x) = 3(1 - x)^2 + 5(1 - x) + 2$. 20. _____