Secondary Math II

Quarter 1 Final
PRACTICE TEST

Name

(LESSON)

1. Simplify. $3x^2 + 6x - (x + 5)$ (1-1)

2. Find the product. $(6x + 1)(4x - 3)$ (1-1)

3. Simplify. $(2xy^6)^3$ (1-2)

4. Simplify. $\left(\frac{3x^7}{5}\right)^2$ (1-2)

5. Simplify. $5\sqrt{63}$ (1-3)

6. Simplify. $(16x^{36})^{\frac{1}{2}}$ (1-3)

7. Find the sum. $9\sqrt{3} + 11\sqrt{3}$ (1-4)

8. Find the product. $(4 + 5i)(7 - 3i)$ (1-5)

x	$h(x)$
-3	14
-2	11
-1	8
0	11
1	14
2	17

Use for problems 9 & 10.

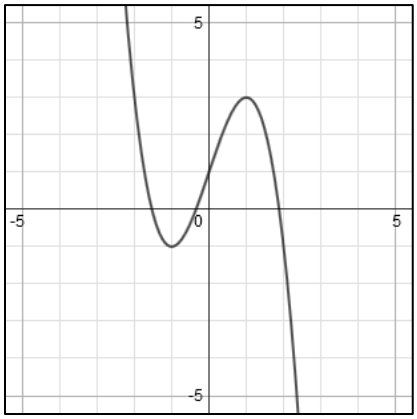
9. Using the table for $h(x)$, determine what type of function it is. (2-1)

10. Using the table for $h(x)$, what is the average rate of change on the interval [–3, 2]? (2-4)

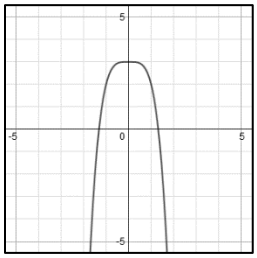
11. Describe the transformation of $F(x) = -(x-2)^2 + 1$ compared with $f(x) = x^2$ (2-2)

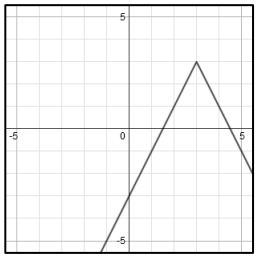
12. Identify the vertex of the function. $g(x) = 2|x+4|$ (2-3)

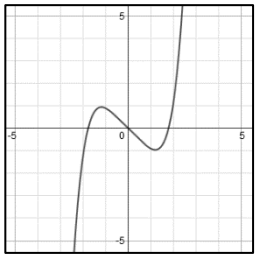
13. For the function graphed below, determine intervals of increasing and decreasing. (2-3)



14. Label each function graph as odd even or neither. (2-4)







Use the following information for problems 15 & 16.

A certain ice cream bar company has constructed the following function: $P(x) = -400(x-2)^2 + 1600$.

In this model, *x* is the price of an ice cream bar, and $P(x)$ is the company's weekly profit.

15. At what **price** should the company sell each ice cream bar to earn a maximum weekly profit? (2-5)

16. What is the company's maximum weekly **profit**? (2-5)