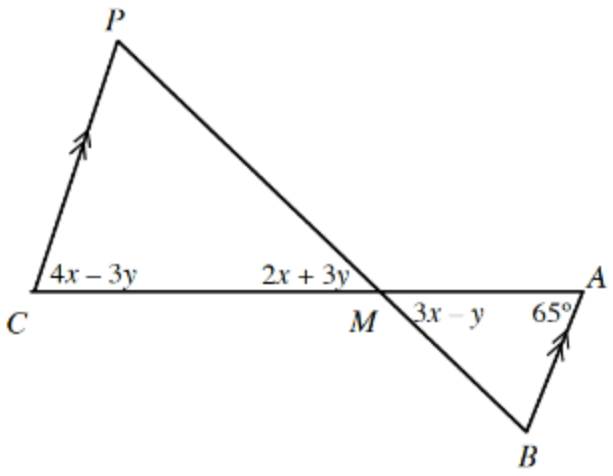
HW#5. **Integrated Math 3, Verti, Semester 2** **Name:**_____

Per:_____

1. G-GPE 3.1 Rewrite the equation into standard form.

$y = -2(x-4)^2 + 3$

2. What is the measure of ∠CPM in the diagram?

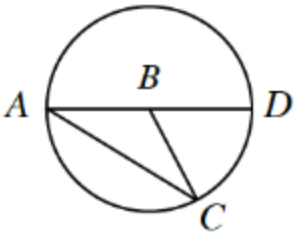


3. F-LE 4.3 Solve each equation.

a. $\log_6(x) + \log_6(5) = 3$

b. $\log_7(7) - \log_7(x) = 5$

4. In the diagram below, $\overline{AD}$ is a diameter of ⊙B. Each part is a new problem. Show all work.



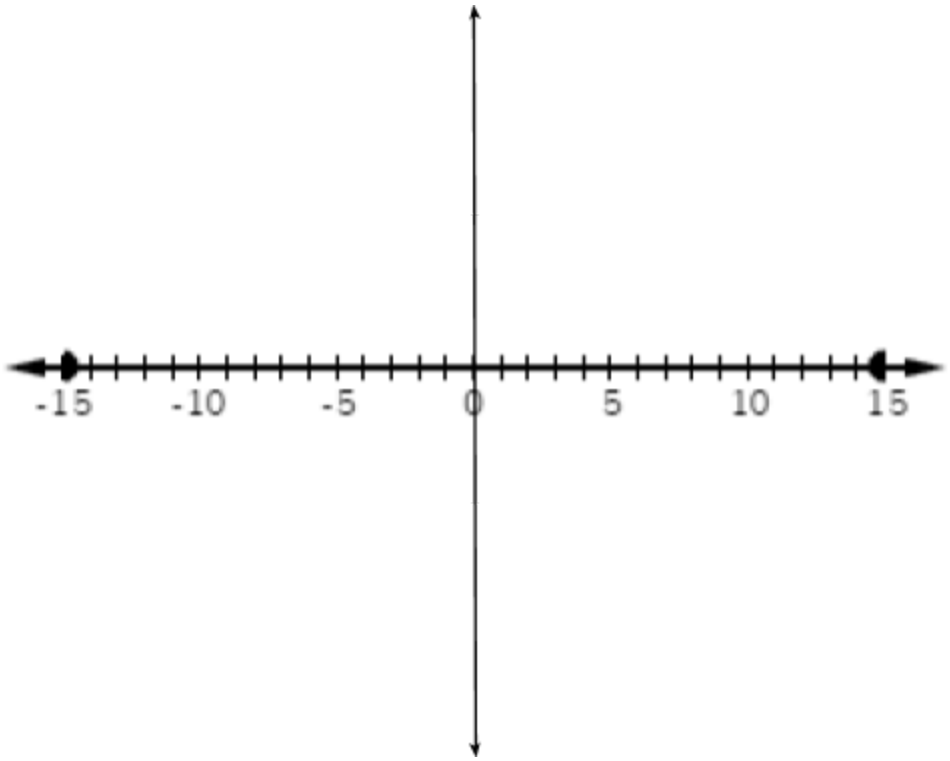
a. If m∠A=35°, what is m∠CBD?

b. If m∠CBD=100°, what is m∠A?

c. If $BC = 5inches$, calculate the circumference of the circle.

5. F-IF.7c & A-APR.3. What do you know about the graph of the polynomial function $p(x) = -x^2(x+4)(x-3)$ without graphing it on Desmos or your graphing calculator?

6. Graph $p(x) = -x^2(x+4)(x-3)$ on Desmos and draw a sketch below. Describe the characteristics of the polynomial function.



HW#6. **Integrated Math 3, Verti, Semester 2** **Name:**_____

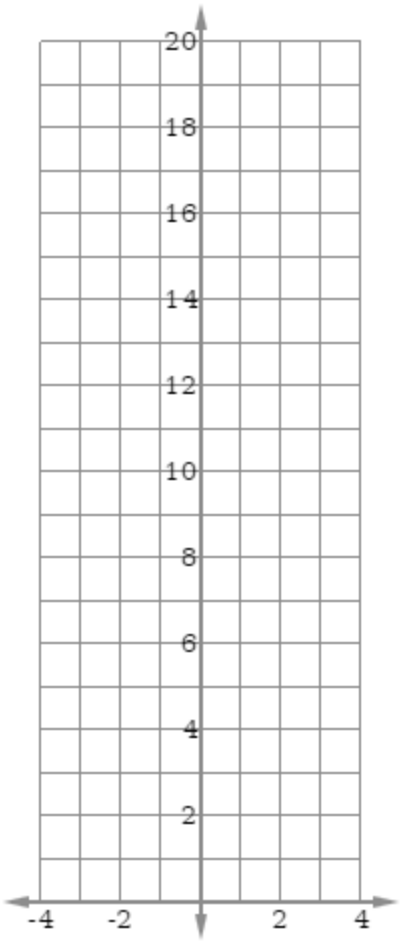
Per:_____

F-LE.4, F-LE 4.3, F-IF.7e

1. What is the pattern described by the table below?

x	y
-2	15
-1	7
0	5.4
1	5.08
2	5.016
3	5.032

2. Plot the points from the table on the graph below. Then, describe the characteristics of the graph.

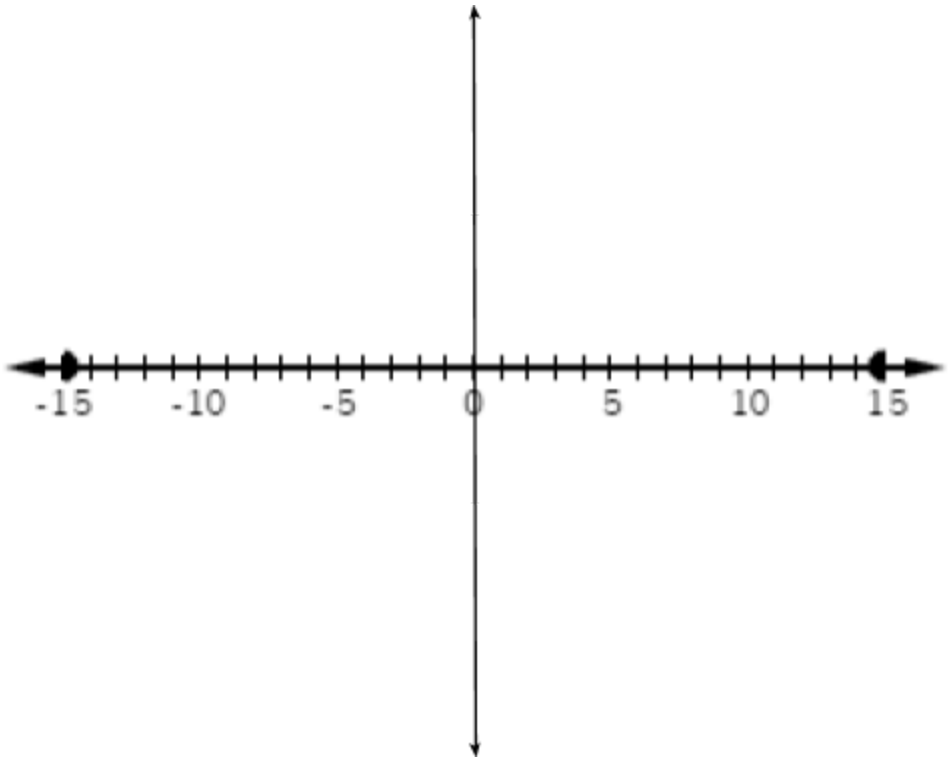


3. Write the equation described by the table and the graph.

4. For what x-value is the y-value $156,255$?

5. A-APR.3 Write a polynomial equation for a graph that passes through the point (−1,60) and has three x-intercepts: (−4,0),(1,0), and (3,0).

6. Check your answer on Desmos. Sketch the graph below.



HW#7. **Integrated Math 3, Verti, Semester 2** **Name:**_____

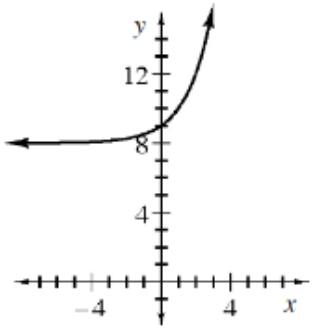
Per:_____

1. Which of the following equations and graphs represent polynomial functions? For those that are not polynomials, explain why not. Review the Math Notes box in 8.1.1 in the textbook for information about polynomials.

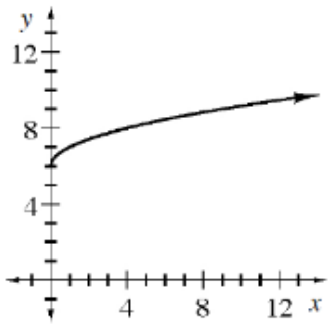
a. $f(x) = 8x^5 + x^2 + 6.5x^4 + 6$

b. $y = \frac{3}{5}x^6 + 19x^2$

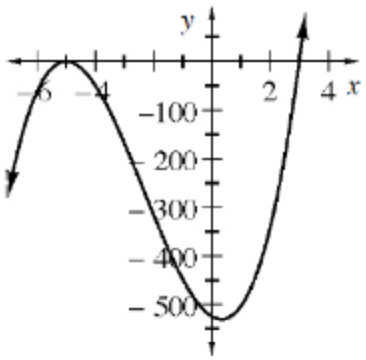
c.



d.



e.



f. $y = x^2 + \frac{1}{x^2+5}$

2. Where does the graph of each function below intersect the x-axis? Solve algebraically. Check your answer on DESMOS.

a. $f(x) = 2x - 7$	b. $f(x) = (x+3)^2 - 5$
c. $f(x) = (x-1)^3 + 8$	d. $f(x) = (x-15)^2(x+4)^5$

3. Evaluate each expression without using a calculator.

a. $\log(1)$

b. $\log(10^3)$

c. $10^{\log(4)}$

d. $10^{3\log(4)}$

4. Simplify each expression.

a. $(3+4i)+(7-2i)$

b. $(3+5i)^2$

c. $(7+i)(7-i)$

d. $(3i)(2i)^2$

e. i^3

f. i^{32}