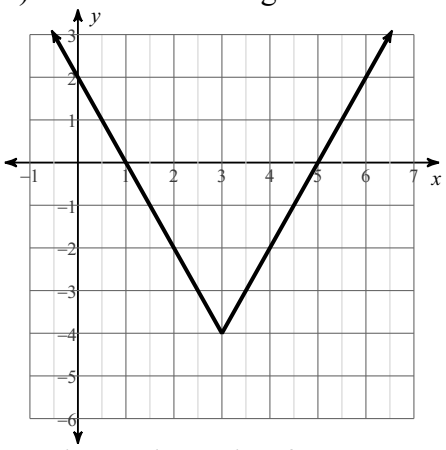
Math-2A Name_____ ID: 1

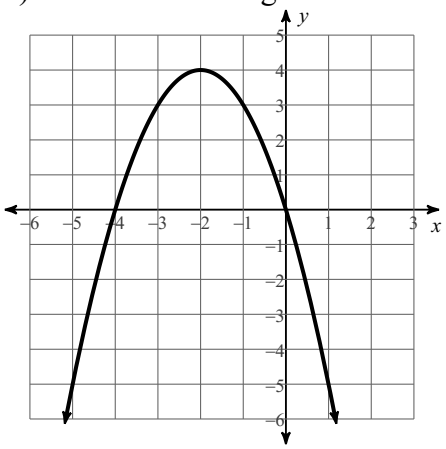
SM2-A HW #6-3 (Where is f(x) increasing, decreasing?)

Period____

1) Use interval notation for your answers (where appropriate)
   a) Where is the function increasing?
   b) Where is the function decreasing?
   c) Where is the "extreme value"?
   d) Is the extreme value a minimum or a maximum?
   e) What is the average rate of change from x = 3 to x = 5



2) Use interval notation for your answers (where appropriate)
   a) Where is the function increasing?
   b) Where is the function decreasing?
   c) Where is the "extreme value"?
   d) Is the extreme value a minimum or a maximum?
   e) What is the average rate of change from x = -2 to x = 0



Simplify. Your answer should contain only positive exponents.

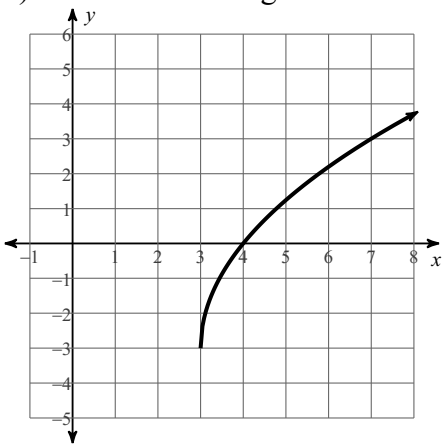
3) $3u^4v^{-4} \cdot 3u^4v^4 \cdot 4u^3v^2$

4) $4x^3 \cdot 4x^4y^3$

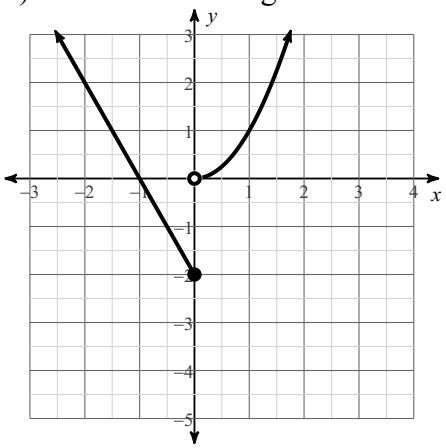
5) $\left(4x^3y^{-3}\right)^{-3}$

6) $\left(2v^4\right)^2$

7) Use interval notation for your answers (where appropriate)
   a) Where is the function increasing?
   b) Where is the function decreasing?
   c) Where is the "extreme value"?
   d) Is the extreme value a minimum or a maximum?
   e) What is the average rate of change from x = 3 to x = 7



8) Use interval notation for your answers (where appropriate)
   a) Where is the function increasing?
   b) Where is the function decreasing?
   c) Where is the "extreme value"?
   d) Is the extreme value a minimum or a maximum?
   e) What is the average rate of change from x = -2 to x = 0



Simplify. Your answer should contain only positive exponents.

9) $\dfrac{x^3}{3x^2}$

10) $\dfrac{x^{-4}y^2}{2xy^4}$

Simplify.

11) $\sqrt[3]{-250n^6}$

12) $\sqrt{108x^4}$

13) Rewrite as a power.
$\left(\sqrt[5]{3x}\right)^4$

14) Write each expression in radical form. $n^{\frac{5}{4}}$

15) Write each expression in radical form. $(2x)^{\frac{2}{3}}$