Name: _____

<div align="center">

Winter Break Warm up!
to be followed by Jeopardy

</div>

1. What does the derivative tell you about a function?

2. What does it mean for the derivative to be :
     Positive?   Negative?   Zero?

3. What does the second derivative tell you about a function?

4. What does it mean for the second derivative to be:
     Positive?   Negative?   Zero?

5.   Find the first and second derivative of each function:

<u>first derivative</u>   <u>second derivative</u>

$y = 3x^4 + 7x - 2$

$y = 5/x^3$

$y = 8\sqrt{x}$

$y = \sqrt[3]{x}$