QUIZ 8 - MATH 152 Friday, March 30

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Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Find the radius of convergence and the interval of convergence of the series $\sum_{n=1}^{\infty} \frac{(x-3)^n}{n2^n}$.

2. Follow each step carefully (do not worry about convergence in this problem, but put your answers in $\sum$-form):

   (a) Find a power series representation of $f(x) = \dfrac{1}{1-2x}$

   (b) Find a power series representation of $g(x) = \dfrac{1}{(1-2x)^2}$.

   (c) Find a power series representation for $h(x) = \dfrac{x^3}{(1-2x)^2}$.