1. **What is the formula for calculating the probability mass function of a CONTINUOUS RANDOM VARIABLE?**

$$F(x): \int_{-\infty}^{\infty} f(x) \, dx = 1$$

2. Find the value of '**a**' in the following Random Variable.

where $F(X) = 8ax^2 \quad 1 < x < 2$

3. Find the value of "**K**" for the following Random Variable.

$$F(x) = 8kx^3 - \frac{8k}{2} x^2 \qquad 0 < x < 5$$

4. Find the value of 'K' for the following Random Variable.

$$F(x) = \frac{18 \, k}{4} x^4 \qquad 2 < x < 8$$