1. Solve the following formula for the specified variable. If there is more than one solution, separate your answers with commas. If there are no real solutions, enter NO SOLUTION.

\[ F = g \frac{mM}{d^2} \] ; solve for \( d \)

(Newton’s law of gravitation; \( F \) is the force between two masses, \( g \) is the gravitational constant, \( m \) is the first mass, \( M \) is the second mass, and \( d \) is the distance between the masses)

\[
F = g \frac{mM}{d^2} \\
F = \frac{gmM}{d^2} \\
d^2 \cdot F = \frac{gmM}{d^2} \cdot d^2 \\
d^2 F = gmM \\
d^2 = \frac{gmM}{F} \\
\]

\[
d = \pm \sqrt{\frac{gmM}{F}}
\]

Since the variable \( d \) represents the distance between the two masses, \( d \) must be a non-negative value. Therefore we will disregard the negative root, and keep only the positive root.

\[
d = \sqrt{\frac{gmM}{F}}
\]