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$$2 = \frac{a_1}{1-q} \quad / (1)^3$$

$$1 \frac{1}{7} = \frac{a_1^3}{1-q^3}$$

$$8 = \frac{a_1^3}{(1-q)^3}$$

$$\frac{1}{7} = \frac{\frac{a_1}{1-q}}{\frac{a_1^3}{(1-q)^3}} = \frac{(1-q)^2}{(1-q)(1+q+q^2)}$$

$$1+q+q^2 = 7(1-2q+q^2)$$

$$6q^2 - 15q + 6 = 0$$

~~q = 2~~

$q = \frac{1}{2}$
$a_1 = 1$