

$2k + 5, k + 5, k - 1$ are consecutive terms of a geometric sequence. Find k

$$2k + 5, k + 5, k - 1$$

$$\frac{k + 5}{2k + 5} = \frac{k - 1}{k + 5}$$

$$(k + 5)(k + 5) = (k - 1)(2k + 5)$$

$$k^2 + 5k + 5k + 25 = 2k^2 + 5k - 2k - 5$$

$$k^2 + 10k + 25 = 2k^2 + 3k - 5$$

$$0 = k^2 - 7k - 30$$

$$0 = (k - 10)(k + 3)$$

$$k = 10, k = -3$$

$$2k + 5, k + 5, k - 1$$

$$k = 10$$

$$2(10) + 5, 10 + 5, 10 - 1$$

$$25, 15, 9$$

$$r = \frac{3}{5}$$

$$k = -3$$

$$2(-3) + 5, -3 + 5, -3 - 1$$

$$-1, 2, -4$$

$$r = -2$$