

Alg 2 Bellwork Tuesday, August 27, 2019

Discover the pattern in each sequence in order to state the next three terms.

1. 23, 25, 21, 27, 19, ...

2. 55, 42, 29, 16, ...

3. 1458, -486, 162, -54, ...

4. $\frac{3}{4}, \frac{5}{16}, \frac{7}{64}, \frac{9}{256}, \dots$

5. $\frac{9}{10}, \frac{3}{5}, \frac{2}{5}, \frac{4}{15}, \dots$

ANSWERS

Discover the pattern in each sequence in order to state the next three terms.

1. $23, 25, 21, 27, 19, \dots$

$\begin{array}{c} \nearrow -4 \quad \nearrow -8 \\ \downarrow +2 \quad \downarrow +6 \end{array}$

alternate add & subtract
next even #

$29, 17, 31$

2. $55, 42, 29, 16, \dots$

subtract 13

$3, -10, -23$

3. $1458, -486, 162, -54, \dots$

mult by $-\frac{1}{3}$

or $\div$ by -3

$18, -6, 2$

4. $\frac{3}{4}, \frac{5}{16}, \frac{7}{64}, \frac{9}{256}, \dots$

$4^1 \quad 4^2 \quad 4^3 \quad 4^4$

numerator is next odd #
denominator is next power of 4

$\frac{11}{1024}, \frac{13}{4096}, \frac{15}{16384}$

5. $\frac{9}{10}, \frac{3}{5}, \frac{2}{5}, \frac{4}{15}, \dots$

multiply by $\frac{2}{3}$

$\frac{4}{15} \cdot \frac{2}{3} = \frac{8}{45}$

$\frac{8}{45} \cdot \frac{2}{3} = \frac{16}{135}$

$\frac{16}{135} \cdot \frac{2}{3} = \frac{32}{405}$

$\frac{8}{45}, \frac{16}{135}, \frac{32}{405}$