

Bellwork Alg 2B Wednesday, December 13, 2017

Find the next three numbers in each sequence.

1. 16, 24, 36, 54, ...

2. 6, 7, 11, 20, 36, ...

3. 8, 11, 17, 26, ...

4. 7, 28, 14, 56, 28, ...

5. $\frac{3}{2}, \frac{5}{4}, \frac{7}{8}, \frac{9}{16}, \dots$

6. 9, 11, 10, 14, 11, 17, 12, ...

Find the next three numbers in each sequence.

1. 16, 24, 36, 54, ...

multiplying by 1.5

Next 3 are:

81, 121.5, 182.25

2. 6, 7, 11, 20, 36, ...
 $\begin{matrix} +4 & +16 \\ \uparrow & \uparrow \\ 6, 7, 11, 20, 36, \dots \\ \downarrow & \downarrow \\ +1 & +9 \end{matrix}$

add next perfect square

Next 3 are:

61, 97, 146

Answers

3. 8, 11, 17, 26, ...
 $\begin{matrix} +6 \\ \uparrow \\ 8, 11, 17, 26, \dots \\ \downarrow \downarrow \\ +3 \quad +9 \end{matrix}$

Add next multiple of 3

Next 3 are:

38, 53, 71

4. 7, 28, 14, 56, 28, ...
 $\begin{matrix} \div 2 & \div 2 \\ \uparrow & \uparrow \\ 7, 28, 14, 56, 28, \dots \\ \downarrow \downarrow \\ \times 4 & \times 4 \end{matrix}$

Alternate multiplying by 4 then dividing by 2

Next 3 are:

112, 56, 224

5. $\frac{3}{2}, \frac{5}{4}, \frac{7}{8}, \frac{9}{16}, \dots$

Numerators: Next odd #

denominators: Next power of 2

Next 3 are:

$\frac{11}{32}, \frac{13}{64}, \frac{15}{128}$

6. 9, 11, 10, 14, 11, 17, 12, ...
 $\begin{matrix} -1 & -3 & -5 \\ \uparrow & \uparrow & \uparrow \\ 9, 11, 10, 14, 11, 17, 12, \dots \\ \downarrow \downarrow \downarrow \\ +2 & +4 & +6 \end{matrix}$

alternately adding the next even # then subtracting the next odd #:

Next 3 are:

20, 13, 23