

$$3, 5, 7, 12, 37, 69, 357, 2 \boxed{656}$$

$$\begin{array}{cccccccc} +2 & +2 & +5 & +25 & +32 & +288 & +299 \\ \hline \times 1 & +3 & \times 5 & +7 & \times 9 & +11 \end{array}$$

$$8, 15, 26, 2, 56, 75$$

$$\begin{array}{cccccc} +7 & +11 & +13 & +17 & +19 \end{array}$$

$$\boxed{39}$$

$$325, 271, 226, 2, 163, 145, 136$$

$$\begin{array}{ccccccc} +54 & +45 & +36 & +27 & +18 & +9 \end{array}$$

$$\boxed{190}$$

$$8, \frac{15}{\text{---}}, 50, 225, 1100, 5475$$

$$\begin{array}{cccc} \text{---} & \text{---} & \text{---} & \text{---} \\ \times 5-25 & \times 5-25 & \times 5-25 & \times 5-25 \end{array}$$

$$1, 1, 4, 12, 27, \frac{53}{\text{---}}$$

$$\begin{array}{cccccc} +0 & +3 & +8 & +15 & +26 \\ \hline +3 & +5 & +7 & +11 \end{array}$$

$$49, 22, -5, -32, -59, -86$$

$$\begin{array}{ccccc} -27 & -27 & -27 & -27 & -27 \end{array}$$

$$1, 3, 4, 11, 18, \frac{41}{\text{---}}$$

$$\begin{array}{ccccc} \times 2+1 & \times 2-2 & \times 2+3 & \times 2-4 & \times 2+5 \end{array}$$

$$\boxed{155}$$

$$33, 80, 108, 2, 183, 230, 258$$

$$\begin{array}{cccccc} 47 & 28 & 47 & 28 & 47 & 28 \end{array}$$

$$100, 87, 108, 79, \frac{116}{\text{---}}, 71$$

$$\begin{array}{cc} +8 & +8 \\ \hline +8 & +8 \end{array}$$

$$77, 82, 69, 90, 61, \frac{98}{\text{---}}$$

$$\begin{array}{cc} -8 & -8 \\ \hline +8 & +8 \end{array}$$

$$0, 7, 33, 96, \frac{220}{\text{---}}$$

$$\begin{array}{cccc} +7 & +26 & +63 & 124 \\ \hline \downarrow & \downarrow & \downarrow & \downarrow \\ 2^3-1 & 3^3-1 & 4^3-1 & 5^3-1 \end{array}$$

$$5, 32, 59, \frac{86}{\text{---}}$$

$$\begin{array}{ccc} +27 & +27 & +27 \end{array}$$

$$3, 10, 26, 60, \frac{130}{\text{---}}$$

$$\begin{array}{cccc} 7 & 16 & 34 & 70 \\ \hline +9 & +18 & +36 \end{array}$$

$$\begin{array}{ccccccccc}
 13, & 14, & -2, & 79, & -177, & \underline{448} \\
 \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\
 +1 & -16 & +81 & -256 & +625 & \\
 \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\
 1^2 & 4^2 & 9^2 & 16^2 & 25^2 & \\
 \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\
 +3 & +5 & +7 & +9 & & \\
 \hline
 -2 & 0 & 79 & 0 & -177 & \\
 \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\
 +2 & +79 & -79 & -177 & & \\
 \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\
 +81 & -256 & & & &
 \end{array}$$

$$\begin{array}{ccccccc}
 -\frac{1}{729}, & -\frac{1}{81}, & -\frac{1}{9}, & \underline{-1} \\
 \downarrow & \downarrow & \downarrow & \\
 \times 9 & \times 9 & \times 9 &
 \end{array}$$

$$\begin{array}{ccccccccccc}
 3, & 5, & 7, & 12, & 37, & 69, & 357, & \underline{656} \\
 \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\
 +2 & +2 & +5 & +25 & +32 & +288 & +299 & \\
 \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\
 \times 1 & \times 3 & \times 5 & \times 7 & \times 9 & \times 11 & &
 \end{array}$$

$$\begin{array}{ccccccccc}
 352, & 326, & 284, & 225, & 148, & \underline{52} \\
 \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\
 +26 & +42 & +59 & +77 & +96 & \\
 \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\
 +16 & +17 & +18 & +19 & &
 \end{array}$$

$$\begin{array}{ccccccc}
 0, & 14, & 78, & 252 \\
 \uparrow & \uparrow & \uparrow & \uparrow \\
 1^4-1 & 2^4-2 & 3^4-3 & 4^4-4
 \end{array}$$

$$\begin{array}{ccccccccc}
 4, & 11, & 19, & 31, & 52, & 89, & \underline{151} \\
 \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\
 +7 & +8 & +12 & +21 & +37 & +62 & \\
 \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \\
 1 & 4 & 9 & 16 & 25 & &
 \end{array}$$

$$32, 32, 32, 34, \underline{102}, 106, 530$$

$\xrightarrow{+0}$ $\xrightarrow{\times 1}$ $\xrightarrow{+2}$ $\xrightarrow{\times 3}$ $\xrightarrow{+4}$ $\xrightarrow{\times 5}$

$$54, 46, 34, 26, 14, \underline{6}$$

$\xrightarrow{+8}$ $\xrightarrow{+12}$ $\xrightarrow{+8}$ $\xrightarrow{+2}$ $\xrightarrow{+8}$

~~225,~~

$$5, 8, 19, 36, 75, \underline{148}$$

$\xrightarrow{\times 2-2}$ $\xrightarrow{\times 2+3}$ $\xrightarrow{\times 2-2}$ $\xrightarrow{\times 2+3}$ $\xrightarrow{\times 2-2}$

$$25, 115, 214, 322, \underline{439}, 565, 700$$

$\xrightarrow{+90}$ $\xrightarrow{+99}$ $\xrightarrow{+108}$ $\xrightarrow{+117}$ $\xrightarrow{+126}$ $\xrightarrow{+135}$

$$136, 204, 306, \underline{459}, 688.5$$

$\xrightarrow{+68}$ $\xrightarrow{+102}$ $\xrightarrow{+153}$ $\xrightarrow{+229.5}$

\uparrow \uparrow \uparrow \uparrow

$\frac{1}{2} \times 136$ $\frac{1}{2} \times 204$ $\frac{1}{2} \times 306$ $\frac{1}{2} \times 459$

$$4, 12, 42, 168, 208, 1040, \underline{1090}$$

$\xrightarrow{\times 3}$ $\xrightarrow{+30}$ $\xrightarrow{\times 4}$ $\xrightarrow{+40}$ $\xrightarrow{\times 5}$ $\xrightarrow{+50}$

Answer - 10.9

$$4, 7, 17, 38, 72, 123, 193, 286, 408, \underline{561}$$

$\xrightarrow{+3}$ $\xrightarrow{+10}$ $\xrightarrow{+4}$ $\xrightarrow{+34}$ $\xrightarrow{+51}$ $\xrightarrow{+70}$ $\xrightarrow{+93}$ $\xrightarrow{+122}$ $\xrightarrow{+153}$

$\xrightarrow{+7}$ $\xrightarrow{+11}$ $\xrightarrow{+13}$ $\xrightarrow{+17}$ $\xrightarrow{+19}$ $\xrightarrow{+23}$ $\xrightarrow{+29}$ $\xrightarrow{+31}$