

Find the missing Terms.

① 2, 3, 6, 4, 5, 20, —, 3, 18

$(2, 3, 6)$ $(4, 5, 20)$ $(—, 3, 18)$

+1 x2

+1 x4

↓ +1 x6
assume

2 bcz $2+1=3$

So

missing Term $\boxed{2}$

② 1, 3, 9, 15, 25, —, 49

↓ ↓ ↓ ↓
 $1^2 \times 3$ $3^2 \times 5$ $5^2 \times 7 = 25$ 7^2

So

$\boxed{35}$

③ 2, 7, 10, 22, 18, 37, 26, —

+15 +15 +15

2+8 10+8 18+8

$\boxed{37+15=52}$

So $\boxed{52}$

④ 34, 7, 37, 14, 40, 28, 43, —

x2 x2 x2

+3 +3 +3

So $28 \times 2 = \boxed{56}$

⑤ (5, 7), (11, —), (17, 19)

+2 +2 +2

$= \boxed{13}$

missing Terms.

(a) 2, 4, 12, 48, — ?

$2 \times 2 = 4$

$4 \times 3 = 12$

$12 \times 4 = 48$

$48 \times 5 = 240$

48×5

$$\begin{array}{r} 48 \\ \times 5 \\ \hline 240 \end{array}$$

$$\begin{array}{r} 5 \\ \times 13 \\ \hline \end{array}$$

(b) 5, 10, 13, 26, 29, 58, 61, — ?

$5 \times 2 = 10$

$10 + 3 = 13$

$13 \times 2 = 26$

$26 + 3 = 29$

$29 \times 2 = 58$

$58 + 3 = 61$

$61 \times 2 = 122$

So 122

$$\begin{array}{r} 13 \\ \times 2 \\ \hline 26 \end{array}$$

$$\begin{array}{r} 29 \\ \times 2 \\ \hline 58 \end{array}$$

$$\begin{array}{r} 61 \\ \times 2 \\ \hline 122 \end{array}$$

$$\begin{array}{r} 58 \\ \times 2 \\ \hline 116 \end{array}$$

$$\begin{array}{r} 122 \\ \times 2 \\ \hline 244 \end{array}$$

$$\begin{array}{r} 61 \\ \times 2 \\ \hline 122 \end{array}$$

(c) 15, 19, 28, —, 69, 109

Sol: $+4$ $+9$ $+16$ $+25$ $+36$
 2^2 3^2 4^2 and 5^2 acc. to trend

$4^2 = 16$, $5^2 = 25$

so $28 + 16 = 44$

$44 + 25 = 69$

so 44

$$\begin{array}{r} 28 \\ \times 2 \\ \hline 56 \end{array}$$

$$\begin{array}{r} 44 \\ \times 2 \\ \hline 88 \end{array}$$

$$\begin{array}{r} 69 \\ \times 2 \\ \hline 138 \end{array}$$

$$\begin{array}{r} 109 \\ \times 2 \\ \hline 218 \end{array}$$

$$\begin{array}{r} 25 \\ \times 2 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 36 \\ \times 2 \\ \hline 72 \end{array}$$

(d) B, E, K, W, — ?

B=2, E=5, K=11, W=23

$2 \times 2 = 4$
 $4 + 1 = 5$

$5 \times 2 = 10$
 $10 + 1 = 11$

$11 \times 2 = 22$
 $22 + 1 = 23$

$23 \times 2 = 46$
 $46 + 1 = 47$

47

$47 - 26 = 21$

21

$$\begin{array}{r} 23 \\ \times 2 \\ \hline 46 \end{array}$$

$$\begin{array}{r} 47 \\ \times 2 \\ \hline 94 \end{array}$$

(e) $\{(476 + 424)^2 - 4 \times 476 \times 424\}$

Sol:

$(a+b)^2 - 4ab = (a-b)^2$

$(476 - 424)^2$

$(52)^2$

2704

$$\begin{array}{r} 476 \\ \times 476 \\ \hline \end{array}$$

$$\begin{array}{r} 424 \\ \times 424 \\ \hline \end{array}$$

$$\begin{array}{r} 2704 \\ \times 2704 \\ \hline \end{array}$$

$$\begin{array}{r} 52 \\ \times 52 \\ \hline 104 \\ 260 \\ \hline 2704 \end{array}$$

12
502

① COMPUTER = R F U V Q N P C

↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
3	13	21	5	18	21	17	16	16	3
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
15	16	20	18	6	22	14	3		

so

MEDICINE = E O J D J E F M

↓	↓	↓	↓	↓	↓
13	4	3	14		
↓	↓	↓	↓		
5	9	9	6		

Backward.

② F2, D8, C16, B32

+	+	+	+
2	4	8	16
↓	↓	↓	↓
1	2	4	8

F, E, D, C, B

E4

$2+2=4$
 $4+4=8$
 $8+8=16$
 $16+16=32$

③ LANDMINE = P Y R B Q Y R C

↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
12	14	13	14	16	18	17	18	18	3
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
1	4	9	5	25	2	7	3		

$12+4=16$ $14+4=18$ $13+4=17$ $14+8=18$
 $27+24=25$ $4+2=2$ $9+2=7$ $5-2=3$

so

HOMEMADE = LMOCQYHC

↓	↓	↓	↓	↓	↓
8	13	13	4		
↓	↓	↓	↓		
15	5	1	5		

$8+4=12$ $13+4=17$ $13+4=17$ $4+4=8$
 $15-2=13$ $5-2=3$ $1-2=9$ $5-2=3$
 $-1+26=25$

4, 8, ,

100, 180, 294

$4^2 \times 3$

$5^2 \times 4$

$6^2 \times 5$

$7^2 \times 6$

$2^2 \times 1$

$3^2 \times 2$

20

48