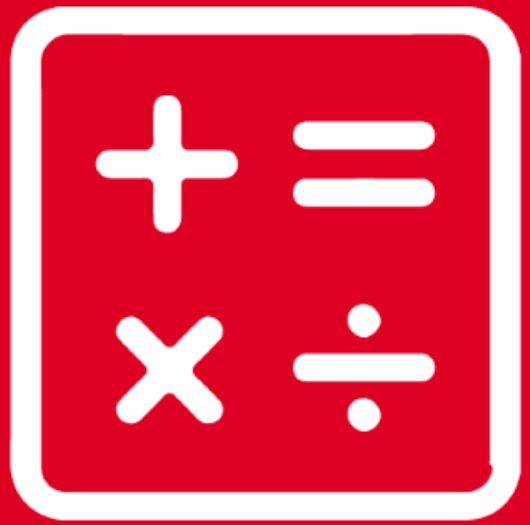
MATHEMATICAL REASONING

Chapter 19, 20 & 21



2nd
OF SECONDARY

FEED BACK

SACO OLIVEROS

1

Mario pesa 72 kg más la séptima parte de su peso total. ¿Cuál es la cuarta parte del peso de Mario?

Resolución:

Peso de Mario

$\underbrace{7n}$

84 kg

$$\text{Peso} = 72 + \frac{1}{7}(\text{Peso})$$

$$7n = 72 + \frac{1}{7}(7n)$$

$$7n = 72 + n$$

$$6n = 72$$

$$n = 12$$

Piden:

$\frac{1}{4}$ (Peso)

$\frac{1}{4}$ (84kg) ➡ 21kg

21 Kg

2

Si (x) = $x^2 + 1$, calcule (5) x (6)

Resolución:

(5) $= (5)^2 + 1 = 26$

(6) $= (6)^2 + 1 = 37$

Finalmente :

(5) x (6) = 962

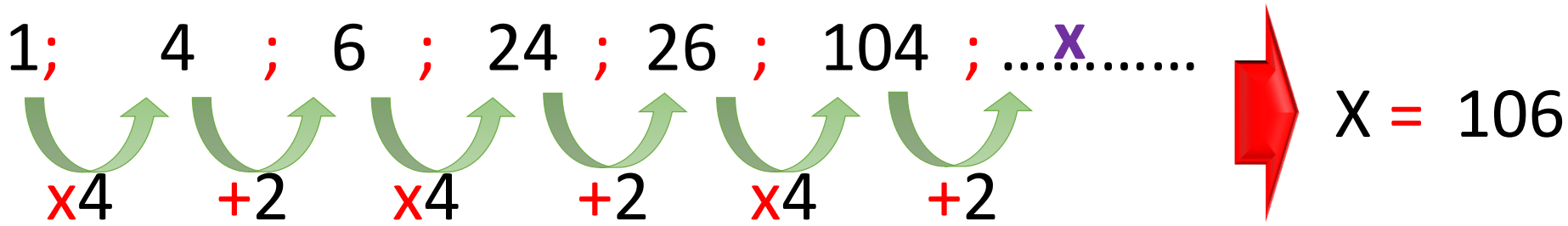
962

3

Halle el valor de *x*.

1; 4; 6; 24; 26;104; *x*

Resolución:



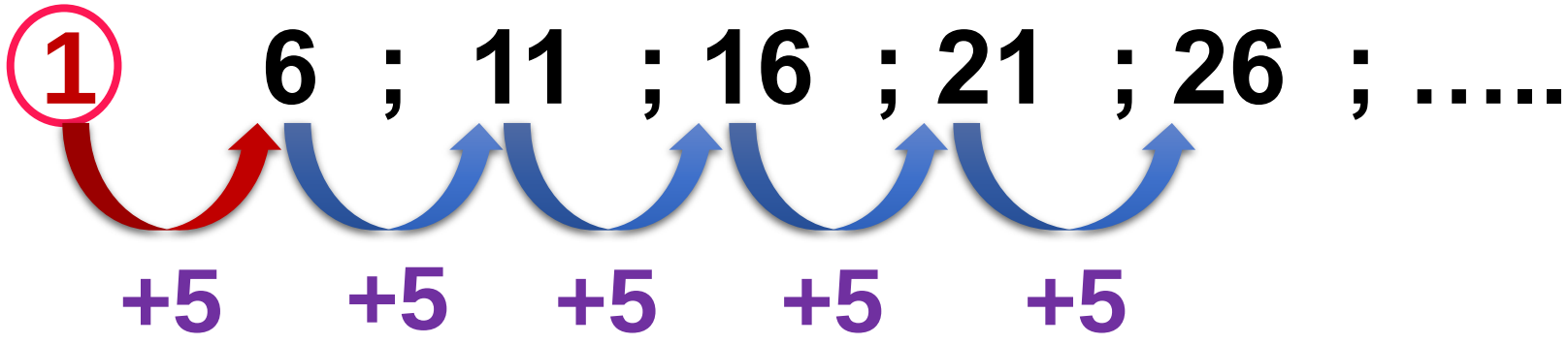
Rpta.

106

4

Determine el término general en: 6 ; 11; 16; 21; 26; .....

Resolución:

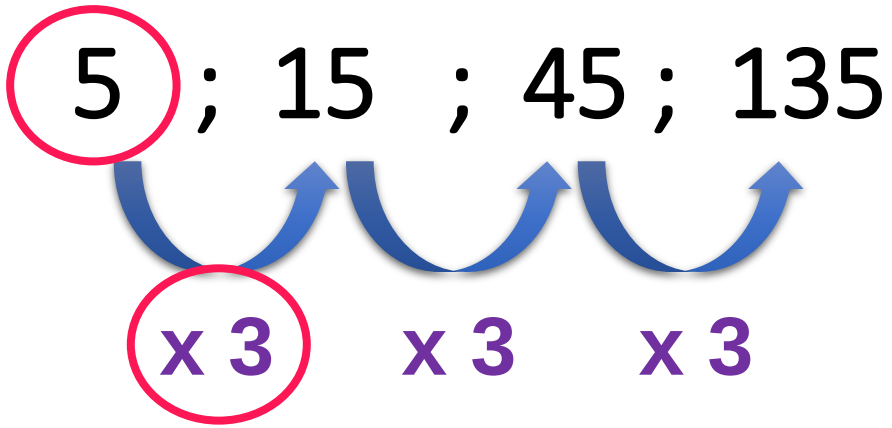


$t_n = 5n + 1$

5

Halle el término de lugar 20 de la sucesión: **5 ; 15 ; 45; 135;…**

Resolución:



El término enésimo será:

$$t_n = 5.3^{n-1}$$

Luego, el término de lugar 20 será:

$$t_{20} = 5.3^{20-1}$$

$$t_{20} = 5.3^{19}$$

5.3^{19}

6

¿Qué número falta?

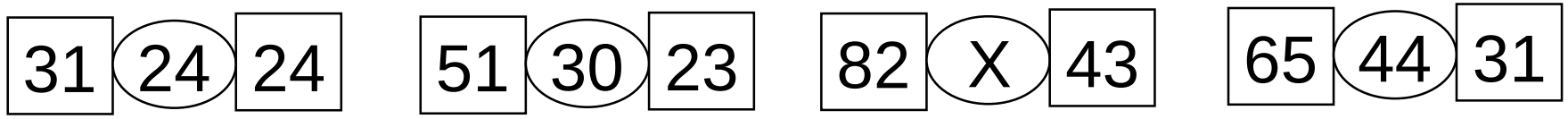
Resolución:

7	5	53	➡	7 x 5 = 35	➡	53
9	3	72	➡	9 x 3 = 27	➡	72
8	7	65	➡	8 x 7 = 56	➡	65
6	7	X	➡	6 x 7 = **42**	➡	**24**

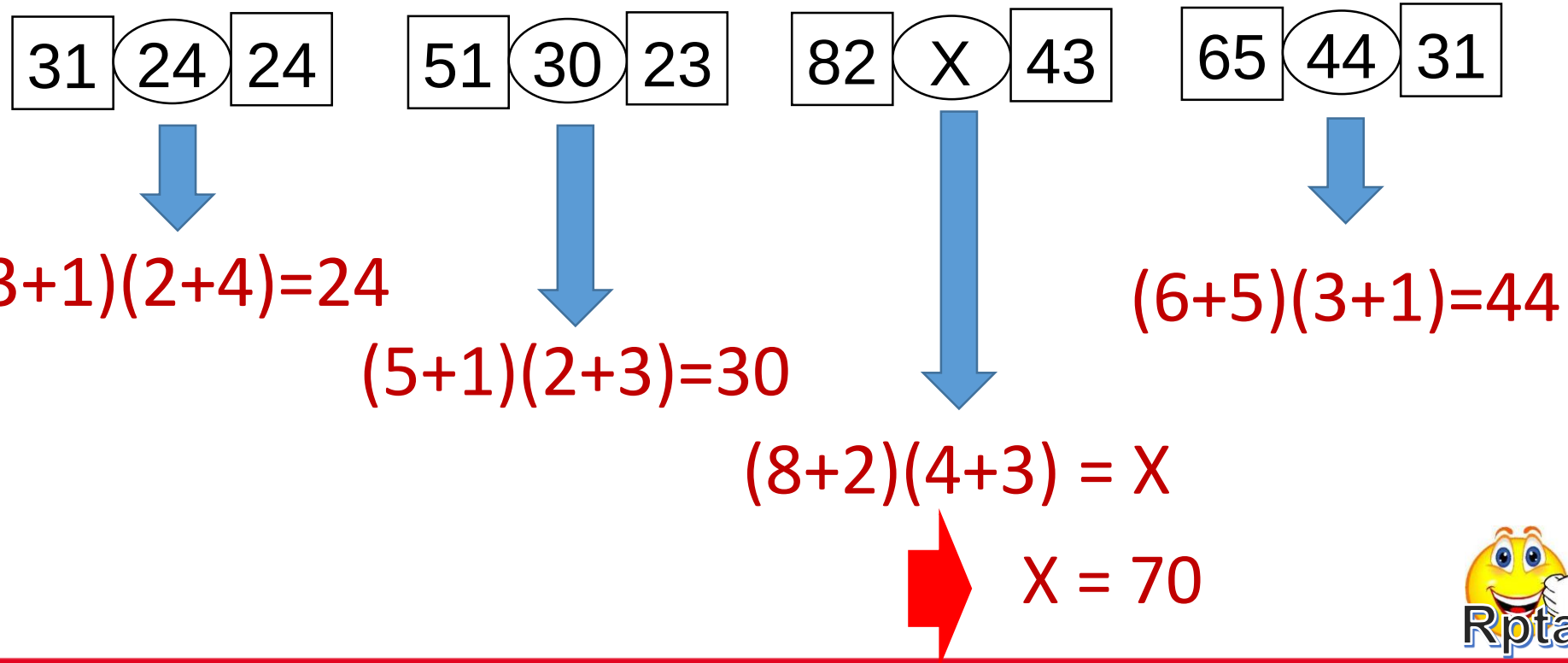
24

7

Halle el valor de X en:



Resolución:



8

Calcule la suma total: **S** = 6 + 14 + 22 + 30 + …. + 318

Resolución:

Veamos:

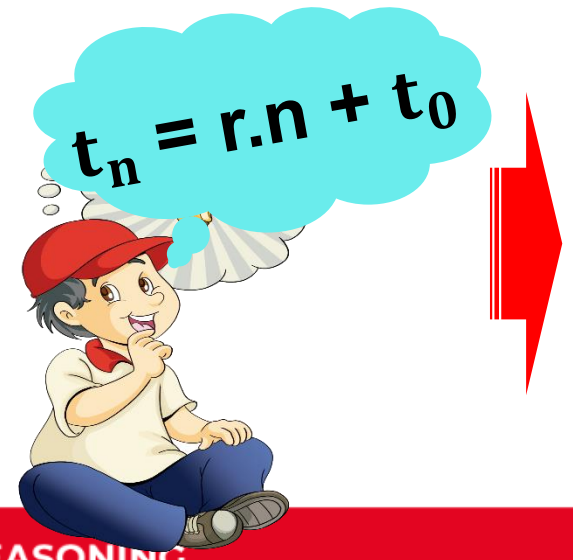
$t_0 = -2 + 6 + 14 + 22 + 30 + \ldots + 318$

+8 +8 +8 +8 = r

t_1 : 6

t_n : 318

n : ¿ ?



318 = 8n - 2

320 = 8n

40 = n

$$S = \frac{(t_1 + t_n)}{2} \times n$$

$$S = \frac{(6+318)}{2} \times 40$$

$$S = 162 \times 40$$

$$S = 6\,480$$

Rpta

6 480

9

Efectúe: **M** = 1 + 3 + 5 + 7 + 9 + ... + 203

Resolución:

Veamos:

$t_0 = -1 + 1 + 3 + 5 + 7 + ... + 203$

+2 +2 +2 +2 = r

t_1 : 1

t_n : 203

n : ¿ ?

$t_n = r.n + t_0$

203 = 2n - 1

204 = 2n

102 = n

$S = \frac{(t_1+t_n)}{2} \times n$

$S = \frac{(1+203)}{2} \times 102$

$S = 102 \times 102$

$S = 10\ 404$

10 404

10

Halla el último término de la serie de razón constante:

$$\underbrace{9 + \ldots\ldots + \beta}_{\text{20 términos}} = \mathbf{1890}$$

Resolución:

$$\mathbf{S = \frac{(t_1 + t_n)}{2} \times n}$$

$$\mathbf{t_n} = \beta$$

$$\mathbf{1890} = \frac{(9 + \beta)}{2} \times 20$$

$$189 = 9 + \beta$$

$$180 = \beta$$

180