

FICHA Nº 5
CÁLCULO DE MCD y mcm
PARA 1º ESO

ALUMNO/A: _____

FECHA: _____ GRUPO: _____

1) Haz la factorización (factores primos) de: 265, 330 y 1960

$$\begin{array}{r|l} 265 & 5 \\ & 53 \\ & 53 \\ & 1 \end{array}$$

$265 = 5 \cdot 53$

$$\begin{array}{r|l} 330 & 2 \\ & 165 \\ & 3 \\ & 55 \\ & 5 \\ & 11 \\ & 11 \\ & 1 \end{array}$$

$330 = 2 \cdot 3 \cdot 5 \cdot 11$

$$\begin{array}{r|l} 1960 & 2 \\ & 980 \\ & 2 \\ & 490 \\ & 2 \\ & 245 \\ & 5 \\ & 49 \\ & 7 \\ & 7 \\ & 1 \end{array}$$

$1960 = 2^3 \cdot 5 \cdot 7^2$

2) M.C.D y m.c.m. de 96 y 120 (muestra la factorización en todos los casos)

$$\begin{array}{r|l} 96 & 2 \\ & 48 \\ & 2 \\ & 24 \\ & 2 \\ & 12 \\ & 2 \\ & 6 \\ & 2 \\ & 3 \\ & 3 \\ & 1 \end{array}$$

$$\begin{array}{r|l} 120 & 2 \\ & 60 \\ & 2 \\ & 30 \\ & 2 \\ & 15 \\ & 3 \\ & 5 \\ & 5 \\ & 1 \end{array}$$

$96 = 2^5 \cdot 3$
 $120 = 2^3 \cdot 3 \cdot 5$

$MCD(96, 120) = 2^3 \cdot 3 = 8 \cdot 3 = 24$

$mcm(96, 120) = 2^5 \cdot 3 \cdot 5 = 32 \cdot 15 = 480$

3) M.C.D y m.c.m. de 290 y 78

$$\begin{array}{r|l} 290 & 2 \cdot 5 \\ & 29 \\ & 29 \\ & 1 \end{array}$$

$$\begin{array}{r|l} 78 & 2 \\ & 39 \\ & 3 \\ & 13 \\ & 13 \\ & 1 \end{array}$$

$290 = 2 \cdot 5 \cdot 29$
 $78 = 2 \cdot 3 \cdot 13$

$MCD(290, 78) = 2$

$mcm(290, 78) = 2 \cdot 3 \cdot 5 \cdot 13 \cdot 29 = 30 \cdot 13 \cdot 29 = 11310$

4) M.C.D y m.c.m. de 72 y 48

$$\begin{array}{r|l} 72 & 2 \\ & 36 \\ & 2 \\ & 18 \\ & 2 \\ & 9 \\ & 3 \\ & 3 \\ & 3 \\ & 1 \end{array}$$

$$\begin{array}{r|l} 48 & 2 \\ & 24 \\ & 2 \\ & 12 \\ & 2 \\ & 6 \\ & 2 \\ & 3 \\ & 3 \\ & 1 \end{array}$$

$72 = 2^3 \cdot 3^2$
 $48 = 2^4 \cdot 3$

$MCD(72, 48) = 2^3 \cdot 3 = 8 \cdot 3 = 24$

$mcm(72, 48) = 2^4 \cdot 3^2 = 16 \cdot 9 = 144$

5) M.C.D y m.c.m. de 25 y 36

$$\begin{array}{r|l} 25 & 5 \\ & 5 \\ & 5 \\ & 1 \end{array}$$

$$\begin{array}{r|l} 36 & 2 \\ & 18 \\ & 2 \\ & 9 \\ & 3 \\ & 3 \\ & 1 \end{array}$$

$25 = 5^2$
 $36 = 2^2 \cdot 3^2$

$MCD(25, 36) = 1$

$mcm(25, 36) = 2^2 \cdot 3^2 \cdot 5^2 = 4 \cdot 25 \cdot 9 = 900$

6) M.C.D y m.c.m. de 13 y 15

$13 = 13$ (PRIMO)
 $15 = 3 \cdot 5$

$MCD(13, 15) = 1$

$mcm(13, 15) = 13 \cdot 3 \cdot 5 = 195$

7) M.C.D y m.c.m. de 150 y 270

$$\begin{array}{r|l} 150 & 2 \cdot 5 \\ 15 & 3 \\ 5 & 5 \\ 1 & \end{array} \quad \begin{array}{r|l} 270 & 2 \cdot 5 \\ 27 & 3 \\ 9 & 3 \\ 3 & 3 \\ 1 & \end{array}$$

$$150 = 2 \cdot 3 \cdot 5^2$$

$$270 = 2 \cdot 5 \cdot 3^3$$

$$\text{MCD}(150, 270) = 2 \cdot 3 \cdot 5 = \boxed{30}$$

$$\text{mcm}(150, 270) = 2 \cdot 3^3 \cdot 5^2 = 2 \cdot 27 \cdot 25 = \boxed{1350}$$

9) M.C.D y m.c.m. de 75 y 81

$$\begin{array}{r|l} 75 & 3 \\ 25 & 5 \\ 5 & 5 \\ 1 & \end{array} \quad \begin{array}{r|l} 81 & 3 \\ 27 & 3 \\ 9 & 3 \\ 3 & 3 \\ 1 & \end{array}$$

$$75 = 3 \cdot 5^2$$

$$81 = 3^4$$

$$\text{MCD}(75, 81) = \boxed{3}$$

$$\text{mcm}(75, 81) = 3^4 \cdot 5^2 = \boxed{2025}$$

8) M.C.D y m.c.m. de 8 y 32

$$8 = 2^3$$

$$32 = 2^5$$

$$\text{MCD}(8, 32) = 2^3 = \boxed{8}$$

$$\text{mcm}(8, 32) = 2^5 = \boxed{32}$$

10) M.C.D y m.c.m. de 110 y 220

$$110 = 2 \cdot 5 \cdot 11$$

$$220 = 2^2 \cdot 5 \cdot 11$$

$$\text{MCD}(110, 220) = 2 \cdot 5 \cdot 11 = \boxed{110}$$

$$\text{mcm}(110, 220) = 2^2 \cdot 5 \cdot 11 = \boxed{220}$$

11) M.C.D y m.c.m. de 100, 70 y 60

$$100 = 2^2 \cdot 5^2$$

$$70 = 2 \cdot 5 \cdot 7$$

$$60 = 2^2 \cdot 3 \cdot 5$$

$$\text{MCD}(100, 70, 60) = 2 \cdot 5 = \boxed{10}$$

$$\text{mcm}(100, 70, 60) = 2^2 \cdot 3 \cdot 5^2 \cdot 7 =$$

$$100 \cdot 3 \cdot 7 = 10 \cdot 21 = \boxed{2100}$$