

R000) RESPOSTAS

R001)

$$\text{mdc}(120, 180) = 60$$

$$\begin{array}{r|l}
 120 - 180 & 2 \leftarrow \\
 60 - 90 & 2 \leftarrow \\
 30 - 45 & 2 \\
 15 - 45 & 3 \leftarrow \\
 5 - 15 & 3 \\
 5 - 5 & 5 \leftarrow \\
 1 - 1 & \hline
 & 2^2 \cdot 3 \cdot 5 = 60
 \end{array}$$

R: 60 cm

	1	2
180	180	60
60	0	

R002) a)

	1
60	2, 2
30	2, 4
15	3, 6, 12
5	5, 10, 20, 15, 30, 60
1	

$$D(60) = \{1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60\}$$

R002) b)

	1	
72	2	2
36	2	4
18	2	8
9	3	3, 6, 12, 24
3	3	9, 18, 36, 72
1		

$$D(72) = \{1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72\}$$

R002) c)

$$D(60) = \{ \underline{1}, \underline{2}, \underline{3}, \underline{4}, 5, \underline{6}, 10, \underline{12}, 15, 20, 30, 60 \}$$

$$D(72) = \{ \underline{1}, \underline{2}, \underline{3}, \underline{4}, \underline{6}, 8, 9, \underline{12}, 18, 24, 36, 72 \}$$

$$R: \{1, 2, 3, 4, 6, 12\}$$

R002) d)

12

R003) a)

$$\begin{array}{r|l}
 8 & -10 & 2 \leftarrow \\
 4 & -5 & 2 \\
 2 & -5 & 2 \\
 1 & -5 & 5 \\
 1 & -1 &
 \end{array}
 \quad
 \begin{array}{l}
 \text{MDC}(8, 10) = 2 \\
 \begin{array}{c|c|c}
 & 1 & 4 \\
 \hline
 10 & 8 & 2 \\
 \hline
 2 & 0 &
 \end{array}
 \end{array}$$

R003) b)

$40-50 \mid 2 \leftarrow \text{mdc}(40,50) = 2 \cdot 5 = 10$
 $20-25 \mid 2$
 $10-25 \mid 2$
 $5-25 \mid 5 \leftarrow$
 $1-5 \mid 5$
 $1-1 \mid$

	1	4
50	40	10
10	0	

R003) c)

$9-12-15 \mid 2$
 $9-6-15 \mid 2$
 $9-3-15 \mid 3 \leftarrow$
 $3-1-5 \mid 3$
 $1-1-5 \mid 5$
 $1-1-1 \mid$

$\text{mdc}(9,12,15) = 3$

	1	4
15	12	3
3	0	

	3
9	3
0	

R003) d)

$16-56-80 \mid 2 \leftarrow \text{mdc}(16,56,80) = 2^3 = 8$
 $8-28-40 \mid 2 \leftarrow$
 $4-14-20 \mid 2 \leftarrow$
 $2-7-10 \mid 2$
 $1-7-5 \mid 5$
 $1-7-1 \mid 7$
 $1-1-1 \mid$

	1	2	3
80	56	24	8
24	8	0	

	2
16	8
0	

R004) a)

$$\begin{array}{r|l}
 28-21 & 2 \\
 14-21 & 2 \\
 7-21 & 3 \\
 7-7 & 7 \leftarrow \\
 1-1 &
 \end{array}$$

$$\begin{array}{c|c|c}
 & 1 & 3 \\
 \hline
 28 & 21 & 7 \\
 \hline
 7 & 0 &
 \end{array}$$

$$\text{mdc}(28, 21) = 7$$

R004) b)

$$21:7=3$$

R004) c)

$$28:7=4$$

R005) a)

$$a = 2^3 \cdot \underline{3} \cdot 5$$

$$b = \underline{2}^2 \cdot 3^2 \cdot 7$$

$$\text{mdc}(a, b) = 3 \cdot 2^2 = 3 \cdot 4 = 12$$

R005) b)

$$a = \underline{2}^3 \cdot \underline{3} \cdot 5$$

$$c = 2^4 \cdot 3^2 \cdot 7$$

$$\text{mdc}(a, c) = 2^3 \cdot 3 = 24$$

R005) c)

$$b = \underline{2}^2 \cdot \underline{3}^2 \cdot \underline{7}$$

$$c = 2^4 \cdot 3^2 \cdot 7$$

$$\text{mdc}(b, c) = 2^2 \cdot 3^2 \cdot 7 = 252$$

R005) d)

$$a = 2^3 \cdot \underline{3} \cdot 5$$

$$b = \underline{2}^2 \cdot 3^2 \cdot 7$$

$$c = 2^4 \cdot 3^2 \cdot 7$$

$$\text{mdc}(a, b, c) = 2^2 \cdot 3 = 4 \cdot 3 = 12$$

R006) a)

$$\begin{array}{r|l}
 32-48 & 2 \leftarrow \\
 16-24 & 2 \leftarrow \\
 8-12 & 2 \leftarrow \\
 4-6 & 2 \leftarrow \\
 2-3 & 2 \\
 1-3 & 3 \\
 1-1 &
 \end{array}
 \quad \text{mdc}(32,48)=2^4=16$$

R006) b)

$$\begin{array}{r|l}
 60-72 & 2 \leftarrow \\
 30-36 & 2 \leftarrow \\
 15-18 & 2 \\
 15-9 & 3 \leftarrow \\
 5-3 & 3 \\
 5-1 & 5 \\
 1-1 &
 \end{array}
 \quad \text{mdc}(60,72)=2^2 \cdot 3=4 \cdot 3=12$$

R006) c)

$$\begin{array}{r|l}
 75-125 & 3 \\
 25-125 & 5 \leftarrow \\
 5-25 & 5 \leftarrow \\
 1-5 & 5 \\
 1-1 &
 \end{array}
 \quad \text{mdc}(75,125)=5^2=25$$

R006) d)

$$\begin{array}{r|l}
 70-90-120 & 2 \leftarrow \text{mdc}(70,90,120)=2 \cdot 5=10 \\
 35-45-60 & 2 \\
 35-45-30 & 2 \\
 35-45-15 & 3 \\
 35-15-5 & 3 \\
 35-5-5 & 5 \leftarrow \\
 7-1-1 & 7 \\
 1-1-1 &
 \end{array}$$

R006) e)

$$\begin{array}{r|l}
 28-70-84 & 2 \leftarrow \text{mdc}(28,70,84)=2 \cdot 7=14 \\
 14-35-42 & 2 \\
 7-35-21 & 3 \\
 7-35-7 & 5 \\
 7-7-7 & 7 \leftarrow \\
 1-1-1 &
 \end{array}$$

R007) a)

$$\begin{array}{r|l}
 25-30 & 2 \\
 25-15 & 3 \\
 25-5 & 5 \leftarrow \text{NÃO POIS MDC} \neq 1 \\
 5-1 & 5 \\
 1-1 &
 \end{array}$$

R007) b)

$$\begin{array}{r|l}
 40-21 & 2 \\
 20-21 & 2 \\
 10-21 & 2 \\
 5-21 & 3 \\
 5-7 & 5 \\
 1-7 & 7 \\
 1-1 &
 \end{array}$$

$$\text{mdc}(40,21)=1$$

SIM POIS MDC=1

R007) c)

Sim. Pois 11 e 7 são primos.

R007) d)

$$\begin{array}{r|l}
 28-35 & 2 \\
 14-35 & 2 \\
 7-35 & 5 \\
 7-7 & 7 \\
 1-1 &
 \end{array}$$

$$\text{mdc}(28,35)=1$$

SIM. POIS MDC=1

R008)

MÚLTIPLOS DE 7 e $<25 \Rightarrow 7, 14, 21$

$$\begin{array}{r|l}
 12-10 & 2 \\
 6-5 & 2 \\
 3-5 & 3 \\
 1-5 & 5 \\
 1-1 &
 \end{array}$$

NÃO PODE SER 14 POIS É DIV POR 2
 COMO É D MAIS VELHO SÓ
 PODE SER 21