Convertiți utilizând o metodă directă de conversie:

1. $58936_{(10)} = ?_{(3)}$

$$58936 : 3 = 19645 \text{ rest } 1$$
$$19645 : 3 = 6548 \text{ rest } 1$$
$$6548 : 3 = 2182 \text{ rest } 2$$
$$2182 : 3 = 727 \text{ rest } 1$$
$$727 : 3 = 242 \text{ rest } 1$$
$$242 : 3 = 80 \text{ rest } 2$$
$$80 : 3 = 26 \text{ rest } 2$$
$$26 : 3 = 8 \text{ rest } 2$$
$$8 : 3 = 2 \text{ rest } 2$$
$$2 : 3 = 0 \text{ rest } 2$$

$$\Rightarrow 58936_{(10)} = 2222211211_{(3)}$$

2. $577195_{(10)} = ?_{(15)}$

$$577195 : 15 = 38479 \text{ rest } A$$
$$38479 : 15 = 2565 \text{ rest } 4$$
$$2565 : 15 = 171 \text{ rest } 0$$
$$171 : 15 = 11 \text{ rest } 6$$
$$11 : 15 = 0 \text{ rest } B$$

$$\Rightarrow 577195_{(10)} = B604A_{(15)}$$

3. $12054_{(6)} = ?_{(4)}$

$$4 \cdot 6^0 + 5 \cdot 6^1 + 2 \cdot 6^3 + 1 \cdot 6^4 = 4 + 30 + 432 + 1296 = 1762_{(10)}$$

$$1762 : 4 = 440 \text{ rest } 2$$
$$440 : 4 = 110 \text{ rest } 0$$
$$110 : 4 = 27 \text{ rest } 2$$
$$27 : 4 = 6 \text{ rest } 3$$
$$6 : 4 = 1 \text{ rest } 2$$
$$1 : 4 = 0 \text{ rest } 1$$

$$\Rightarrow 12054_{(6)} = 123202_{(4)}$$

4. $0{,}225_{(10)} = ?_{(7)}$

$0{,}225 \cdot 7 = 1{,}575$

$0{,}575 \cdot 7 = 4{,}025$

$\Rightarrow 0{,}225_{(10)} = 0{,}(1401)_{(7)}$

$0{,}025 \cdot 7 = 0{,}175$

$0{,}175 \cdot 7 = 1{,}225$

5. $0{,}4464_{(10)} = ?_{(5)}$

$0{,}4464 \cdot 5 = 2{,}2320$

$0{,}2320 \cdot 5 = 1{,}1600$

$\Rightarrow 0{,}2104_{(5)}$

$0{,}1600 \cdot 5 = 0{,}8000$

$0{,}8000 \cdot 5 = 4{,}0000$

6. $0{,}B01_{(12)} = ?_{(6)}$

$11 \cdot 12^{-1} + 1 \cdot 12^{-3} = \dfrac{\overset{144}{11}}{12} + \dfrac{1}{1728} = \dfrac{1585}{1728} = 0{,}917_{(10)}$

$0{,}917 \cdot 6 = 5{,}502$

$0{,}502 \cdot 6 = 3{,}012$

$0{,}012 \cdot 6 = 0{,}072$

$0{,}072 \cdot 6 = 0{,}436 \qquad \Rightarrow 0{,}B01_{(12)} = 0{,}5300233_{(6)}$

$0{,}436 \cdot 6 = 2{,}592$

$0,592 \cdot 6 = 3,552$

$0,552 \cdot 6 = 3,312$

7. $5602,72_{(8)} = ?_{(10)}$

$5 \cdot 8^3 + 6 \cdot 8^2 + 2 \cdot 8^0 + 7 \cdot 8^{-1} + 2 \cdot 8^{-2} =$

$= 2560 + 384 + 2 + \dfrac{7}{8} + \dfrac{2}{64} = 2946 + \dfrac{58}{64} = 2946,90625$

8. $9C10,08_{(13)} = ?_{(10)}$

$9 \cdot 13^3 + 12 \cdot 13^2 + 13 + 8 \cdot 13^{-2} = 19773 + 2028 + 13 + \dfrac{8}{169} =$

$= 21814,0473373$

9. $2101,22_{(3)} = ?_{(7)}$

$2 \cdot 3^3 + 1 \cdot 3^2 + 1 \cdot 3^0 + 2 \cdot 3^{-1} + 2 \cdot 3^{-2} = 64 + \dfrac{8}{9} = 64,888_{(10)}$

$64 : 7 = 9 \ \curvearrowright 1$

$9 : 7 = 1 \ \curvearrowright 2$

$1 : 7 = 0 \ \curvearrowright 1$

$\Rightarrow 2101,22_{(3)} = 121,613_{(7)}$

$0,888 \cdot 7 = 6,216$

$0,216 \cdot 7 = 1,512$

$0,512 \cdot 7 = 3,584$

10. 01 00 0000 1 1 01 1 00, 111 001 110₍₂₎ = ?₍₈₎

  2 0 1 5 4, 7 1 6 ₍₈₎

(2)			(8)
0	0	0	0
0	0	1	1
0	1	0	2
0	1	1	3
1	0	0	4
1	0	1	5
1	1	0	6
1	1	1	7

11. 1111 0010 0000 0100 1010, 1101 1110 0101 1000₍₂₎ = ?₍₁₆₎

  F 2 0 4 A, D E 5 8 ₍₁₆₎

(2)	(16)
0000	0
0001	1
0010	2
0011	3
0100	4
0101	5
0110	6
0111	7
1000	8
1001	9
1010	A
1011	B
1100	C
1101	D
1110	E
1111	F

12. 11024, 7501₍₈₎ = ?₍₂₎

  1001000 010 100, 111 101 000 001 ₍₂₎

13 $BC13F,57032_{(16)} = ?_{(2)}$

1011 1100 0001 0011 1111 , 0101 0111 0000 0011 001

Convertiți utilizând o bază intermediară

14. $654,201_{(8)} = ?_{(7)}$

$6 \cdot 8^2 + 5 \cdot 8^1 + 4 + 2 \cdot 8^{-1} + 1 \cdot 8^{-3} = 384 + 44 + \dfrac{\overset{64}{2}}{8} + \dfrac{1}{512} =$

$= 428,251_{(10)} = 1151,152_{(7)}$

$428 : 7 = 61 \curvearrowright 1$
$61 : 7 = 8 \curvearrowright 5$
$8 : 7 = 1 \curvearrowright 1$
$1 : 7 = 0 \curvearrowright 1$

$0,251 \cdot 7 = 1,757$
$0,757 \cdot 7 = 5,299$
$0,299 \cdot 7 = 2,093$

15. $2234,031_{(5)} = ?_{(9)}$

$2 \cdot 5^3 + 2 \cdot 5^2 + 3 \cdot 5 + 4 + 3 \cdot 5^{-2} + 5^{-3} =$

$= 250 + 50 + 15 + 4 + \dfrac{\overset{5/}{3}}{25} + \dfrac{1}{125} = 319,128_{(10)}$

$319 : 9 = 35 \curvearrowright 4$
$35 : 9 = 3 \curvearrowright 8$
$3 : 9 = 0 \curvearrowright 3$

$\Rightarrow 319,128_{(10)} = 384,113_{(9)}$

$0,128 \cdot 9 = 1,152$
$0,152 \cdot 9 = 1,368$
$0,368 \cdot 9 = 3,312$

16. $\underline{1101}\,\underline{1100}\,\underline{0101}$, $\underline{1101\,1100\,0010}_{(2)}$ = ? $_{(10)}$

$6705 , 6702_{(8)}$ = ? $_{(10)}$

$6 \cdot 8^3 + 7 \cdot 8^2 + 5 + 6 \cdot 8^{-1} + 7 \cdot 8^{-2} + 2 \cdot 8^{-3} =$

$$= 3072 + 448 + 5 + \frac{6}{8} + \frac{7}{65} + \frac{2}{512}$$

$$= 3525 , 863$$

17. $3272, 65917\,96875_{(10)}$ = ? $_{(2)}$

$3272 : 16 = 204 \; n \; 8$
$204 : 16 = 12 \; n \; C$
$12 : 16 = 0 \; n \; C$

$$=) \ldots_{(10)} < CC8 , A8B_{(16)} =$$

$0,659 \cdot 16 = A , 544$
$0,544 \cdot 16 = 8 , 704$
$0,704 \cdot 16 = B , 264$

$$= 1100\,1100\,1000, 1010\,1000\,1011_{(2)}$$