## **Method of conversion:**

#### Decimal to binary

| 27  | 2 <sup>6</sup> | 25 | 24 | 23 | 2 <sup>2</sup> | 2 <sup>1</sup> | 2° |
|-----|----------------|----|----|----|----------------|----------------|----|
| 128 | 64             | 32 | 16 | 8  | 4              | 2              | 1  |
| 1   | 1              | 0  | 0  | 0  | 1              | 0              | 0  |

Table 3. Converting decimal number 196 to binary number 11000100

#### Binary to decimal

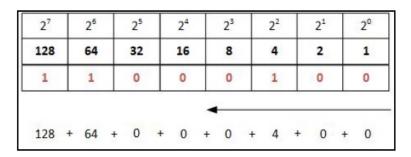


Table 4. Converting the binary number 11000100 to decimal number 196

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## **Converting decimal to binary (Questions):**

:תרגיל

הפוך מעשרוני לבינארי את הערכים הבאים (בדוק את עצמך באמצעות מחשבון):

| 254 .11 | 20  | .1  |
|---------|-----|-----|
| 127 .12 | 92  | .2  |
| 256 .13 | 192 | .3  |
| 255 .14 | 193 | .4  |
| 168 .15 | 220 | .5  |
| 248 .16 | 242 | .6  |
| 200 .17 | 239 | .7  |
| 224 .18 | 240 | .8  |
| 242 .19 | 247 | .9  |
| 128 .20 | 250 | .10 |
|         |     |     |

הפוך את כתובות ה- IP הבאות מעשרוני לבינארי:

```
210.23.67.102 .1
66.23.148.0 .2
192.254.23.123 .3
144.207.78.1 .4
63.125.23.211 .5
192.25.128.36 .6
134.223.156.89 .7
127.0.0.1 .8
224.23.108.23 .9
223.78.27.144 .10
```

## **Converting decimal to binary (Answers):**

1. 00010100

2. 01011100

3. 11000000

4. 11000001

5. 11011100

6. 11110010

7. 11101111

8. 11110000

9. 11110111

10. 11111010

11. 11111110

12. 01111111

13. 100000000

14. 11111111

15. 10101000

16. 11111000

17. 11001000

18. 11100000

19. 11110010

20. 10000000

#### IP address conversion (Answers):

- 1. 11010010.00010111.01000011.01100110
- 2. 01000010.00010111.10010100.00000000
- 3. 11000000.111111110.00010111.01111011
- 4. 10010000.11001111.01001110.00000001
- 5. 00111111.01111101.00010111.11010011
- 6. 11000000.00011001.10000000.00100100
- 7. 10000110.11011111.10011100.01011001
- 8. 01111111.00000000.00000000.00000001
- 9. 11100000.00010111.01101100.00010111
- 10. 11011111.01001110.00011011.10010000

## **Converting binary to decimal (Questions):**

#### תרגיל:

:(בדוק את עצמך באמצעות מחשבון):

| 11000011 .11 | 00001101 | .1  |
|--------------|----------|-----|
| 01111111 .12 | 11101100 | .2  |
| 11110111 .13 | 00001111 | .3  |
| 11111111 .14 | 10110011 | .4  |
| 10000000 .15 | 11110001 | .5  |
| 01010101 .16 | 01101100 | .6  |
| 11100000 .17 | 11111100 | .7  |
| 10011111 .18 | 11000000 | .8  |
| 11110000 .19 | 10110001 | .9  |
| 11111000 .20 | 11111110 | .10 |

# **Converting binary to decimal (Answers):**

| 1. | 13    | 11. 195 |
|----|-------|---------|
| 2. | 236   | 12. 255 |
| 3. | 15    | 13. 247 |
| 4. | 179   | 14. 255 |
| 5. | 241   | 15. 128 |
| 6. | 108   | 16. 85  |
| 7. | 252   | 17. 224 |
| 8. | 192   | 18. 159 |
| 9. | 177   | 19. 240 |
| 10 | . 510 | 20. 248 |