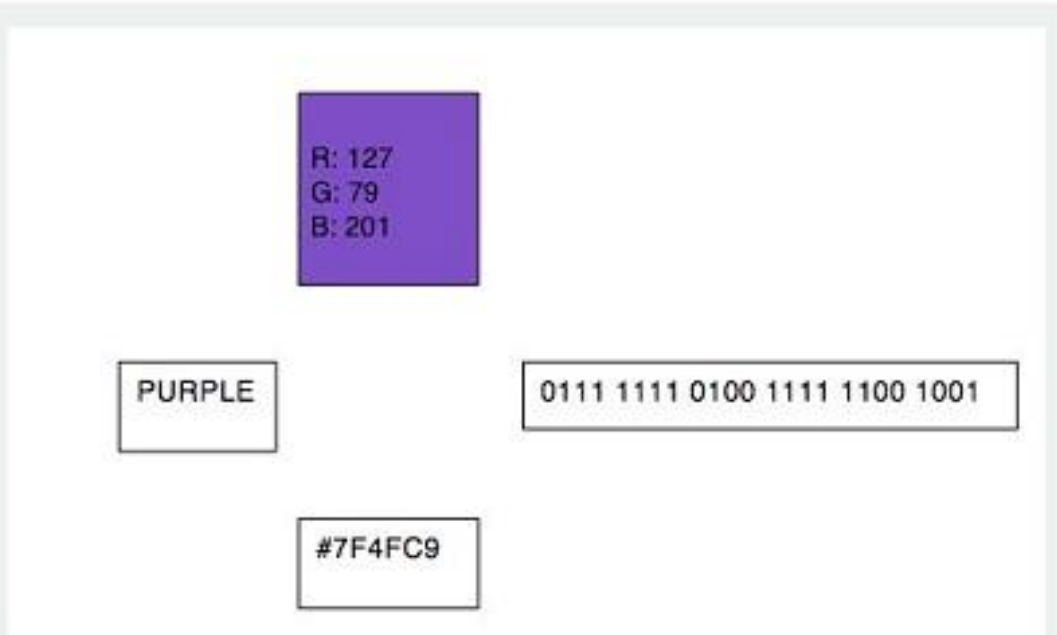
The following image shows four different representations of data.
The hexadecimal color code for the purple shown in the image is #7F4FC9. The first pair of numbers represents the red color value (R), the second pair represents the green color value (G), and the third pair represents the blue color value (B). A simple way to state this is to say that hexadecimal color codes are communicated in the following way: #RRGGBB.

What is the decimal representation of the red color value (R)?



What is the decimal representation of the red color value (R)?

a. 85
b. 127
c. 247
d. 715

ANS: B

ASCII

- Space – 32 (decimal)
- A – 65
- A – 97

Decimal	ASCII Character
65	A
66	B
67	C
68	D
69	E
70	F
71	G
72	H
73	I
74	J
75	K
76	L
77	M

Decimal	ASCII Character
78	N
79	O
80	P
81	Q
82	R
83	S
84	T
85	U
86	V
87	W
88	X
89	Y
90	Z

Convert Hex to decimal and find the letter in the ASCII chart

34. ASCII is a character-encoding scheme that uses a numeric value to represent each character. For example, the uppercase letter "G" is represented by the decimal (base 10) value 71. A partial list of characters and their corresponding ASCII values are shown in the table above.

ASCII characters can also be represented by hexadecimal numbers. According to ASCII character encoding, which of the following letters is represented by the hexadecimal (base 16) number 56?

a. A
b. L
c. V
d. Y

ANS: C PTS: 1

One way of communicating hexadecimal color codes is in the following way: #RRGGBB. The first pair of numbers represents the red color value (R), the second pair represents the green color value (G), and the third pair represents the blue color value (B).

Sometime a simplified color code scheme is used that follows this format: #RGB. In this format, only the first digits of each color component from the original format are used (#RRGGBB).

How many fewer colors are represented using this color code scheme (#RGB) as compared to the original format (#RRGGBB)?

a. 16^3
b. $16^6 - 16^3$
c. $\frac{1}{2}(16^6)$
d. 8^6

ANS: B

The total number of colors that can be represented using the #RGB format is $16 \cdot 16 \cdot 16 = 16^3$.

The number of colors that are lost or cannot be represented by this simplified format is the difference between the respective total number of colors.

(Total number of colors in #RRGGBB) – (Total number of colors in #RGB) = $16^6 - 16^3$

The measurement of the length of an object needs to be stored digitally.

What are the minimum number of bits necessary to represent both the length (an integer number from 0-20 with no decimal places) and its unit of measure (represented by two ASCII characters such as "FT" or "IN")?

Note that 8-bit ASCII encoding is being used in this case.

a. 7
b. 18
c. 20
d. 21

ANS: D

The length can be any integer from 0 to 20. The binary representation of 20, which is the highest number in the range, is 10100 which uses 5 bits. It is stated that the unit of measure is stored as two ASCII characters. Since 8-bit ASCII encoding is used, each ASCII character is stored in one byte (which is 8 bits). Therefore, the unit of measure would require a total of 16 bits. This means that the minimum number of bits required to store both the length and the unit of measure would be 5 + 16 = **21** bits.

33. ASCII is a character-encoding scheme that uses a numeric value to represent each character. For example, the uppercase letter "G" is represented by the decimal (base 10) value 71. A partial list of characters and their corresponding ASCII values are shown in the table below.

Decimal	ASCII Character
65	A
66	B
67	C
68	D
69	E
70	F
71	G
72	H
73	I
74	J
75	K
76	L
77	M

Decimal	ASCII Character
78	N
79	O
80	P
81	Q
82	R
83	S
84	T
85	U
86	V
87	W
88	X
89	Y
90	Z

ASCII characters can also be represented by binary numbers. According to ASCII character encoding, which of the following letters is represented by the 8-bit binary value: 0100 0010

a. The table does not contain the value represented by the binary number 0100 0010
b. ASCII Character: B
c. ASCII Character: A
d. ASCII Character: D

Question Type	Already Selected	Number Remaining	Additional Selections	Total
True/False	0	4	1	1
Multiple Choice	0	79	21	21
Multiple Response	0	2	1	1
Completion	0	70	21	21
Matching	0	8	3	3
Short Answer	0	3	0	0
Problem	0	8	2	2
Essay	0	2	1	1
Total	**0**	**176**	**50**	**50**

Total questions on test: 50

Select All | Clear All

Removed

The ASCII (American Standard Code for Information Interchange) is a character encoding scheme that translates characters into numbers and can be used with either decimal or hexadecimal numbers. A portion of the table, with decimal numbers, follows:

Decimal	Character
65	A
66	B
67	C
...	...
97	a
98	b
99	c
...	...

Using the information above, translate the following characters into their hexadecimal equivalent:

JPEG

a. 6a 70 65 67
b. 4a 50 45 47
c. 4a 70 65 67

A video-streaming Web site uses 32-bit integers to count the number of times each video has been played. In anticipation of some videos being played more times than can be represented with 32 bits, the Web site is planning to change to 64-bit integers for the counter. Which of the following best describes the result of using 64-bit integers instead of 32-bit integers?

a. 2 times as many values can be represented.
b. 32 times as many values can be represented.
c. 2^{32} times as many values can be represented.
d. 32^2 times as many values can be represented.

ANS: C PTS: 1

Sheep and Horses