C++ Primitive Data Types

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1. Integer Types (1 points)

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The type uint32_t is 32 bits and 4 bytes.
It is unsigned and therefore the smallest value is 0.

The type uint8_t is 8 bits and 1 bytes.
It is unsigned and therefore the smallest value is 0 and the largest 255.

The type int8_t is signed and therefore the smallest value is -128 and the larges

2. Identify the constants (1 points)

Click to report a problem

For each constant, enter the corresponding type in C++

3	int
3U	uint
3L	long
3.14	double
2.8f	float
3.14L	long long
'x'	char
0x3a51	uint64_t
0167	uint64_t
1234ULL	unsigned long long

3. Identify the constants (1 points)

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For each C++ constant, Identify the base

321	decimal
-776	decimal
0xF2C	hexadecimal
0677	octal
0b1011	binary

4. Evaluate the answer (1 points)

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```
//Maxint for 16 bits unsigned is 65535
int a = 3 + 4; // a=7
int b = 3 * 2; // b=6
int c = 7 / 2; // c=3
int d = 7 % 2; // d=1
int e = 3 - 4; // e=-1
```

```
uint16_t f = 2-3;       // f=65535
uint16_t g = 65534 + 2; // g=1
int16_t h = 32765 + 2; // h=32767
```

5. Evaluate the answer (1 points) Click to report a problem

```
uint32_t a = 2 + 3 * 4; // a=14
uint32_t b = 5 / 3;     // b=1
uint32_t c = 2 / 3;     // c=0
uint32_t d = 5 / 3 * 3; // d=3
uint32_t e = 4 / 5 * 5; // e=0
uint32_t f = 4 * 5 / 5; // f=0
```

6. bool (1 points) Click to report a problem

```
bool a = false;
cout << a << '\n'; // output is false
a = true;
cout << a << '\n'; // output is true
a = !a;
cout << a << '\n'; // output is false
cout << (3 > 3) << '\n'; // output is false
cout << (4 < 6) << '\n'; // output is true
```

7. logical operators (1 points) Click to report a problem

```
For each assignment write true or false.
bool a = 3 < 2 && 4 < 6; // a=false
bool b = 3 < 5 && 2 < 4; // b=true
bool c = 3 < 2 || 2 < 4; // c=true
bool d = 3 < 2 || 4 > 6; // c=false
```

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