Date _____

Solve for the Unknown (Using Logarithms) Problems - Step-by-Step Lesson

Solve for the unknown.

 $\log_2 b + \log_2 32 = 7$



Explanation:

There are two ways to determine b.

1. Both logs have the same bases so we can multiply their arguments.

```
log_{2} b + log_{2} 32 = 7
log_{2} b^{*} 32 = 7
32b = 2^{7}
32b = 128
b = 4
OR
2. As we know log_{a} a = 1
log_{2} b + log_{2} 32 = log_{2} b + log_{2} 2^{5}
log_{2} b + 5 log_{2} 2 = 7
log_{2} b + 5 = 7
log_{2} b = 2
b = 2^{2} = 4
Answer: b = 4
```

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