How many times brighter is the sky glow today compared to an ideal (magnitude = 6) night sky?

Increasing Sky Glow   **Magnitude**

A perfect sky is dark, so with no light pollution it should be magnitude 6. Our sky, however, is brighter because of light pollution. As we increase sky glow, the sky gets brighter and we lose more stars.

To find out how much brighter the sky glow is now, estimate the magnitude of the area and compare it to the scale.
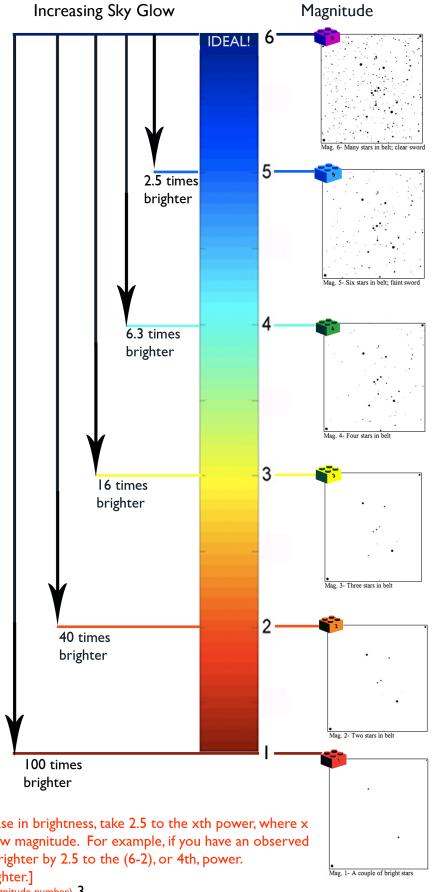
IDEAL!

6

2.5 times brighter

5

Mag. 6- Many stars in belt; clear sword

6.3 times brighter

Mag. 5- Six stars in belt; faint sword

4

16 times brighter

Mag. 4- Four stars in belt

3

9. What Orion star chart matches this area's sky?
   About 4 or slightly less

Mag. 3- Three stars in belt

10. What is the average magnitude for this area?
    About 4

40 times brighter

2

11 By how many magnitudes has the sky changed (from ideal)?
    About 2

Mag. 2- Two stars in belt

12. How many times brighter is the night sky now because of sky glow?
    About 6.3 or more

100 times brighter

1

[NOTE: To determine the increase in brightness, take 2.5 to the xth power, where x is ideal magnitude minus your new magnitude. For example, if you have an observed magnitude of 2, then the sky is brighter by 2.5 to the (6-2), or 4th, power. That is, $2.5^{(6-2)}$,or 40 times brighter.]

(your new magnitude number) 3

Mag. 1- A couple of bright stars