Important Calculations and Formulas

Sensor Crop Factor (Page 30)

Focal length x crop factor = effective focal length

For Example: 100mm lens on a camera with a 1.6 crop factor has an effective focal length of a 160mm lens.   (100 x 1.6 = 160)

Sunny 16 (Page 105)

Lighting Pattern / Starting Exposure
Sunny / F16 @ 1/ISO
Partly Cloudy / F11 @ 1/ISO
Overcast / F8 @ 1/ISO
Heavy Overcast / F5.6 @ 1/ISO

Angle of Incidence (Page 117)

The angle of incidence = the angle of reflectance

Inverse Square Law (Page 118)

Intensity of the light (f-stop) is inversely proportional to the square of the distance from the subject.

In plain English, if you cut the distance (of the light source from the subject) in half – you gain two stops.

If you double the distance – you lose two stops.

For Example, Intensity = F11 at distance D

If we double the Distance (2D), then the inverse is 1/2D.

One-half squared $(1/2^{2)} = ¼)$

Now the Intensity at 2D = ¼ what is was at D

¼ intensity = 2 stops less, or F5.6

or

If we cut the distance in half 1/2D, then the inverse is 2.

Two squared $2^2 = 4$

Now the intensity at ½ D = 4X what is was at D

4X intensity = 2 stops more, or F22