



photography

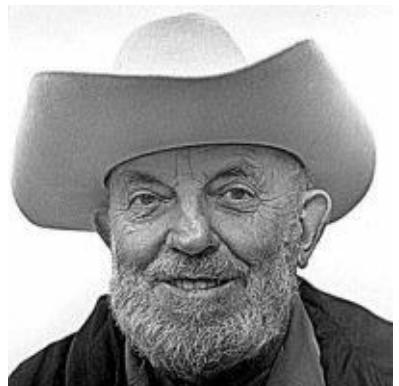
BASICS OF

BHARAT
MANE

EXPECTATIONS



YOU DON'T TAKE A PHOTOGRAPH...
...YOU MAKE IT.



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BEAUTY CAN BE SEEN IN ALL THINGS. SEEING AND COMPOSING THE BEAUTY IS WHAT...

**...SEPARATES THE SNAPSHOT FROM THE
PHOTOGRAPH**



MATT HARDY
PHOTOGRAPHY

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470 TO 390 BC







X Century a.c.
Camera Obscura



1835
Talbot's Mousetrap



1839
Giroux Camera



1841
Voigtländer
Daguerreotype Camera



1853
Archer Camera



1856
Captain Foulke
Camera



1856
Dancer Binocular
Daguerreotype Camera



1860
Dubroni



1862
Johnson & Harrison
Partoscopic Camera



1862
Thompson
Revolver Camera



1885
Stem
Vest Camera



1888
Kodak



1889
Luso



1889
Demon Detective



1889
L'Escopette



1890
Frena



1895
Cámara plegable
pocket kodak



1900
Brownie



1904
Taka



1909
Soho Tropical Reflex



1912
Agfa



1912
Vest Pocket Kodak



1912
Speed Graphic



1924
Ermanox



1924
Jos. Po



1925
Leica



1928
Beau Brownie



1928
Retina



1929
Rolleiflex



1933
Rolleflex



1936
Kine Exakta



1937
Minox



1938
Super Kodak Six-20



1942
Kodak Baby
Brownie



1947
Stereo Realist



1948
Polaroid Land 95



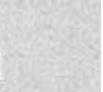
1949
Canon II B



1959
Nikon F



1959
Olympus Pen



1962
Hasselblad
Lunar Surface



1963
Kodak Instamatic 50



1965
Graphclick
Sequence Camera



1966
Rollei 35



1972
Polaroid XS-70



1976
Minolta 110 Zoom
SLR



1978
Polaroid
Supercolor 600
instant camera



1978
Kodak Colorburst 100
instant camera



1981
Sony Mavica



WHICH IS THE
BEST CAMERA



THE BEST CAMERA IS...
...THE ONE IN YOUR HAND



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3 MAIN CLASSIFICATIONS

POINT AND SHOOT
PROSUMER*
DIGITAL SLR



POINT AND SHOOT DIGITAL CAMERAS (P&S)

- Probably 90% of all digital cameras on the market
- Typically small, compact and lightweight
- Typically very User-Friendly
- Image Quality has improved drastically



PROSUMER DIGITAL CAMERAS

- Similar in shape and appearance to Digital SLR's
- Typically have extended zoom range (8-12X Optical Equiv)
- Typically combine user friendly
- P&S features with more advanced
- manual features.



DIGITAL SLR (DSLR)

- Have larger sensors, resulting in greater image quality
- Tend to favor manual control, lacking many automatic settings found on P&S
- Ability to interchange system lenses

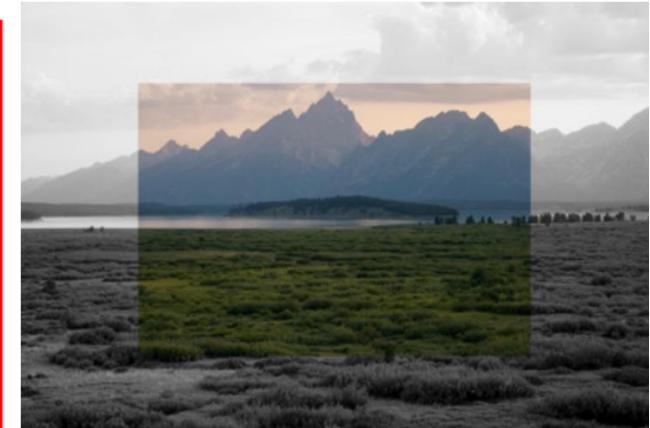
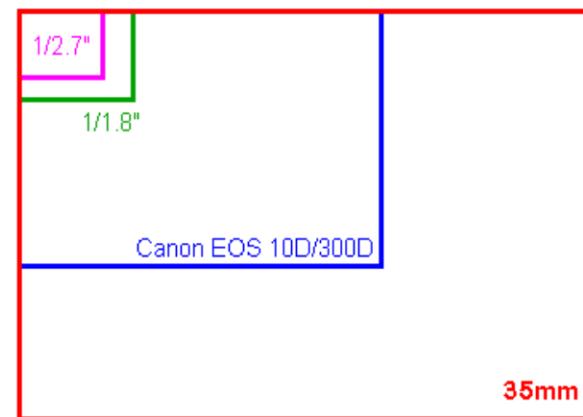
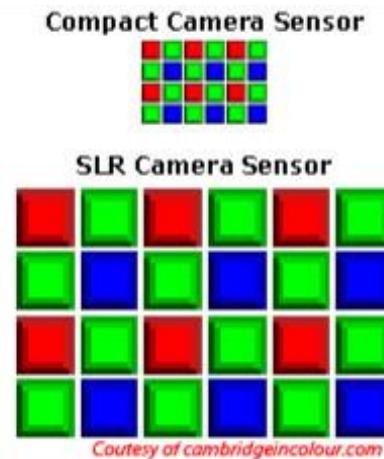


DIGITAL SLR (DSLR)

- SLR Stands for Single Lens Reflex
- Have larger sensors, resulting in greater image quality
- Tend to favor manual control, lacking many automatic settings found on P&S
- Much larger and heavier
- Ability to interchange system lenses

DIGITAL SLR- SENSOR SIZE

- All Pixels are not created equal!
- A digital sensor is essentially made up of millions of tiny micro-lenses (pixels)
- Pixels are analog devices which record light and color data
- Larger Sensors contain larger pixels, which are much better at collecting this data



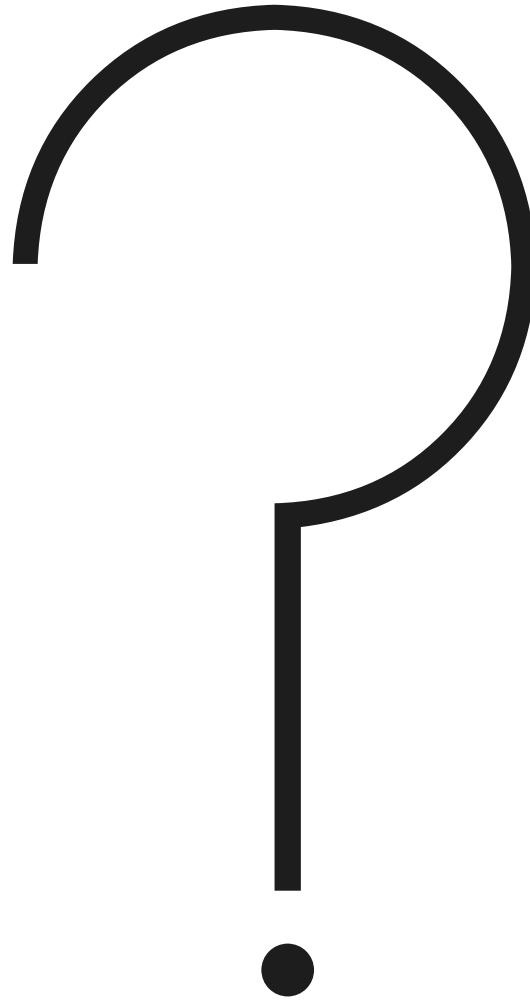
YOUR FIRST 10,000 PHOTOGRAPHS ARE...
...YOUR WORST

...Henri Cartier-Bresson



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CDRAW
DRAW
P EXIF



QUIZ

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A PHOTO OF A CAT WITH THE
COMPRESSION RATE DECREASING, AND
HENCE QUALITY INCREASING

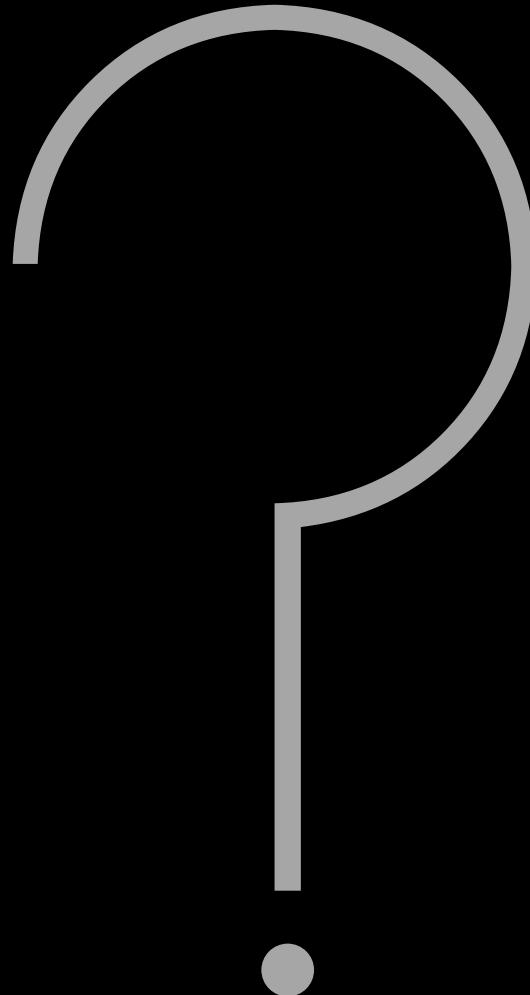
TWELVE SIGNIFICANT PHOTOGRAPHS IN ANY ONE YEAR ...
... IS A GOOD CROP

... Ansel Adams



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BEST WAY TO HOLD
CAMERA



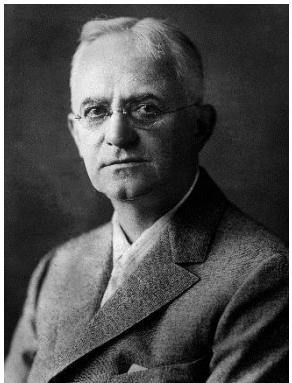


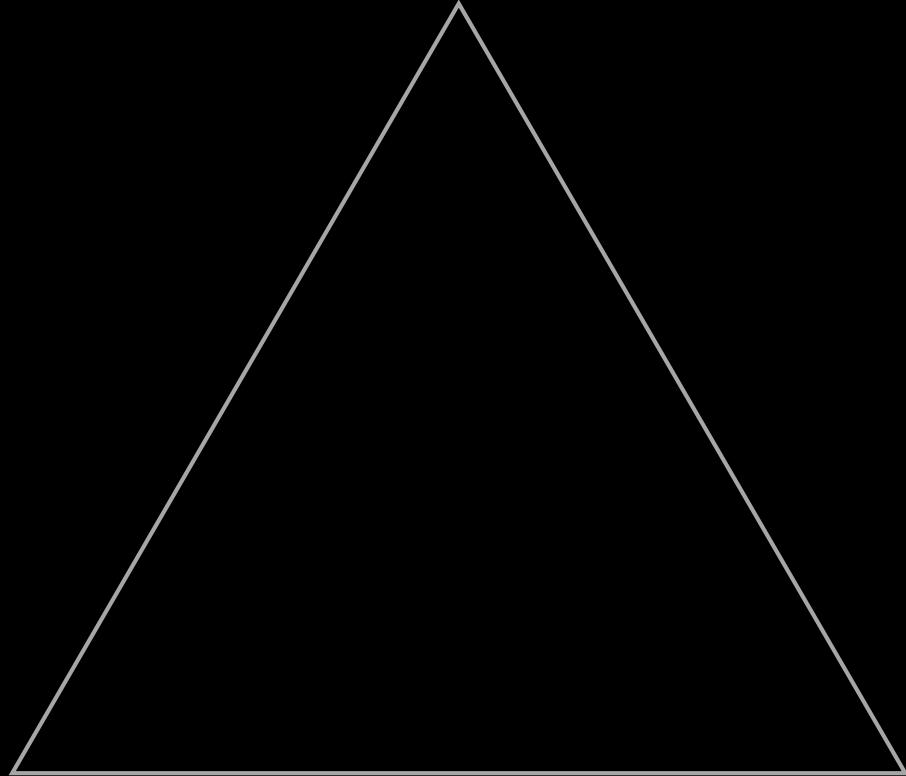
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LIGHT MAKES **PHOTOGRAPHY**. EMBRACE LIGHT. ADMIRE IT. LOVE IT. BUT ABOVE ALL KNOW LIGHT. KNOW IT FOR ALL YOU ARE WORTH AND YOU WILL KNOW...

...THE KEY TO PHOTOGRAPHY

... The Innovator- George Eastman



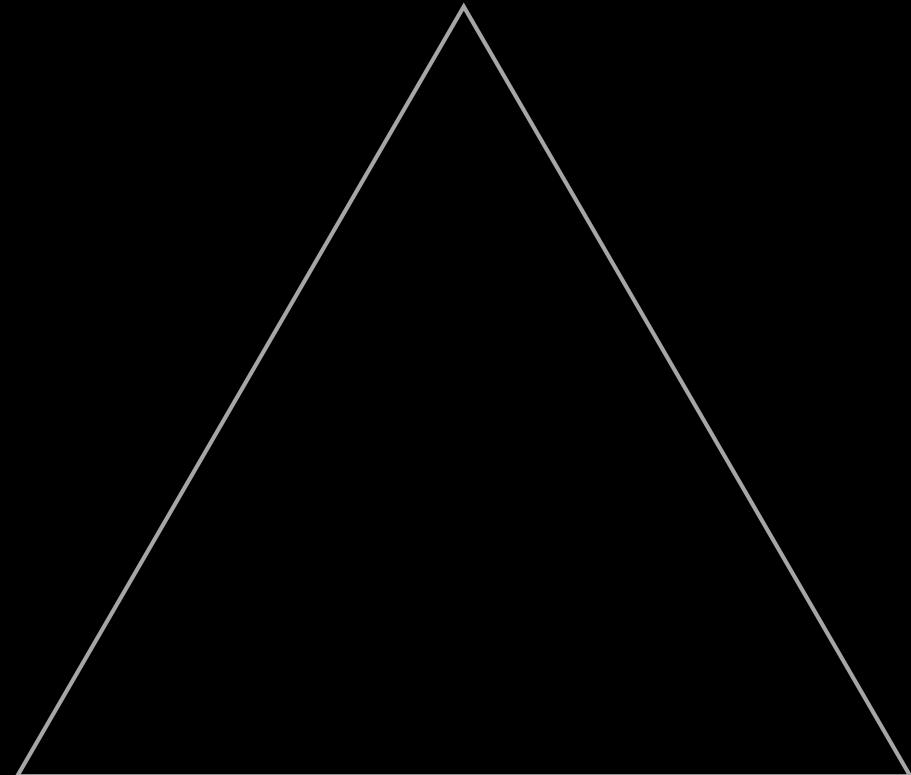


THE EXPOSURE **TRIANGLE**

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SHUTTER SPEED



THE EXPOSURE **TRIANGLE**

APERTURE

ISO

metaphor

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THE WINDOW

NOTHING HAPPENS WHEN YOU SIT AT HOME. I ALWAYS MAKE IT A POINT TO CARRY
A CAMERA WITH ME AT ALL TIMES...

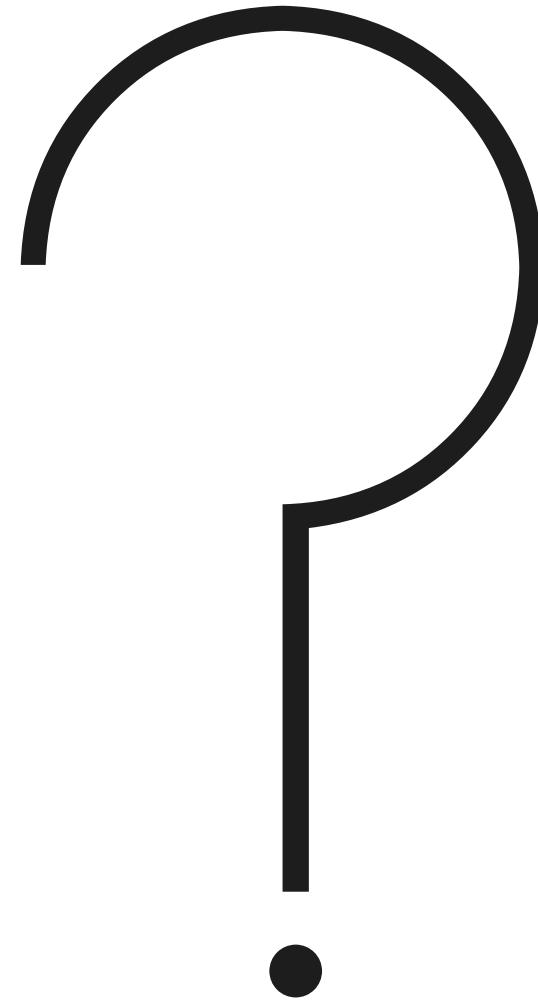
I JUST SHOOT AT WHAT INTERESTS ME AT THAT MOMENT

...Elliott Erwitt



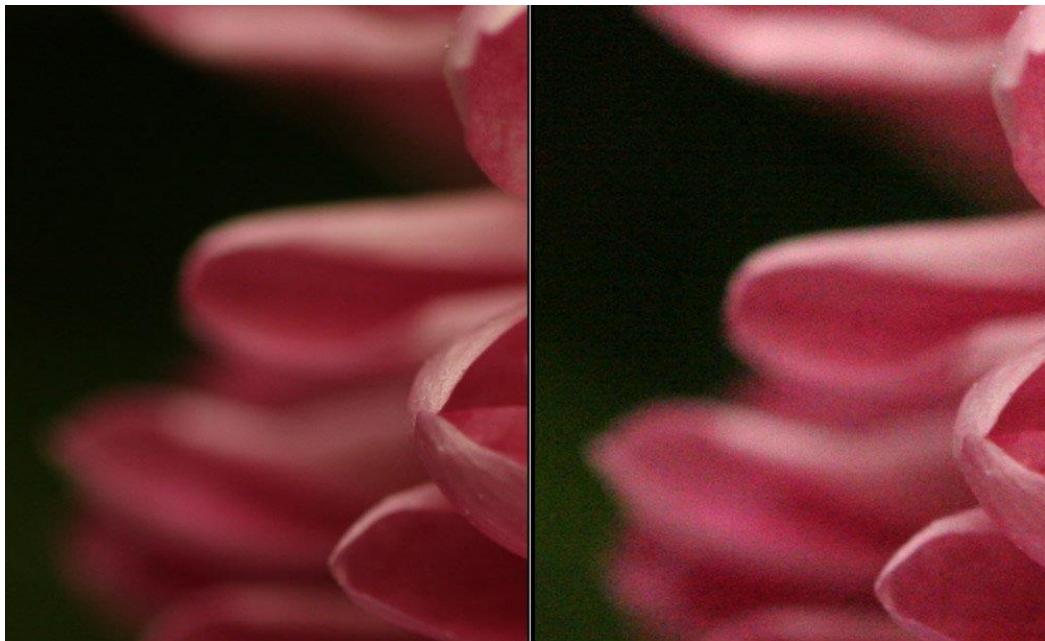
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WHAT IS **ISO**



In traditional (film) photography ISO (or ASA) was the indication of how sensitive a film was to light.

In Digital Photography ISO measures the sensitivity of the image sensor.



WHEN CHOOSING ISO

Light – Is the subject well lit?

Grain – Do I want a grainy shot or one without noise?

Tripod – Am I using a tripod?

Moving Subject – Is my subject moving or stationary?

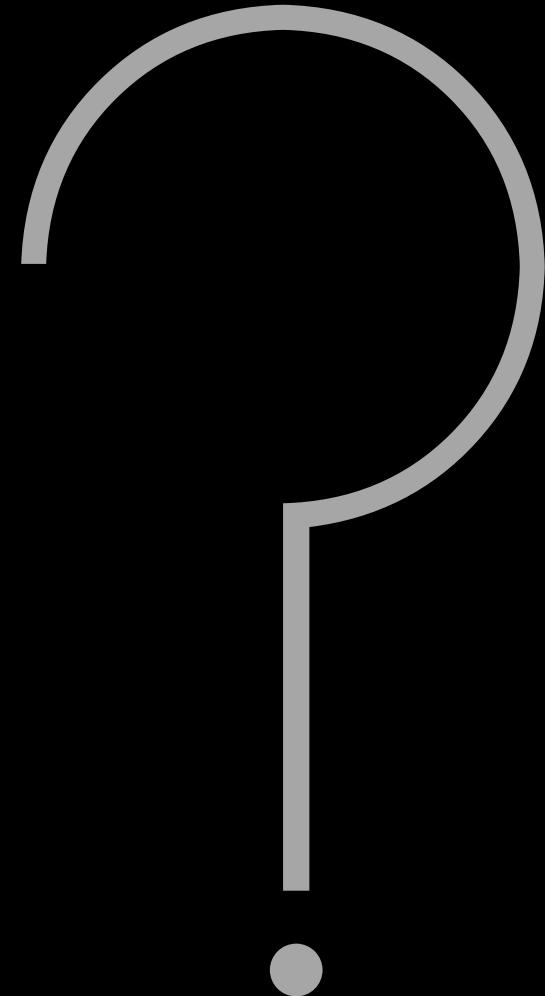
Indoor Sports Events – where your subject is moving fast yet you may have limited light available.

Concerts – also low in light and often ‘no-flash’ zones

Art Galleries, Churches etc- many galleries have rules against using a flash and of course being indoors are not well lit.

Birthday Parties – blowing out the candles in a dark room can give you a nice moody shot which would be ruined by a bright flash. Increasing the ISO can help capture the scene.

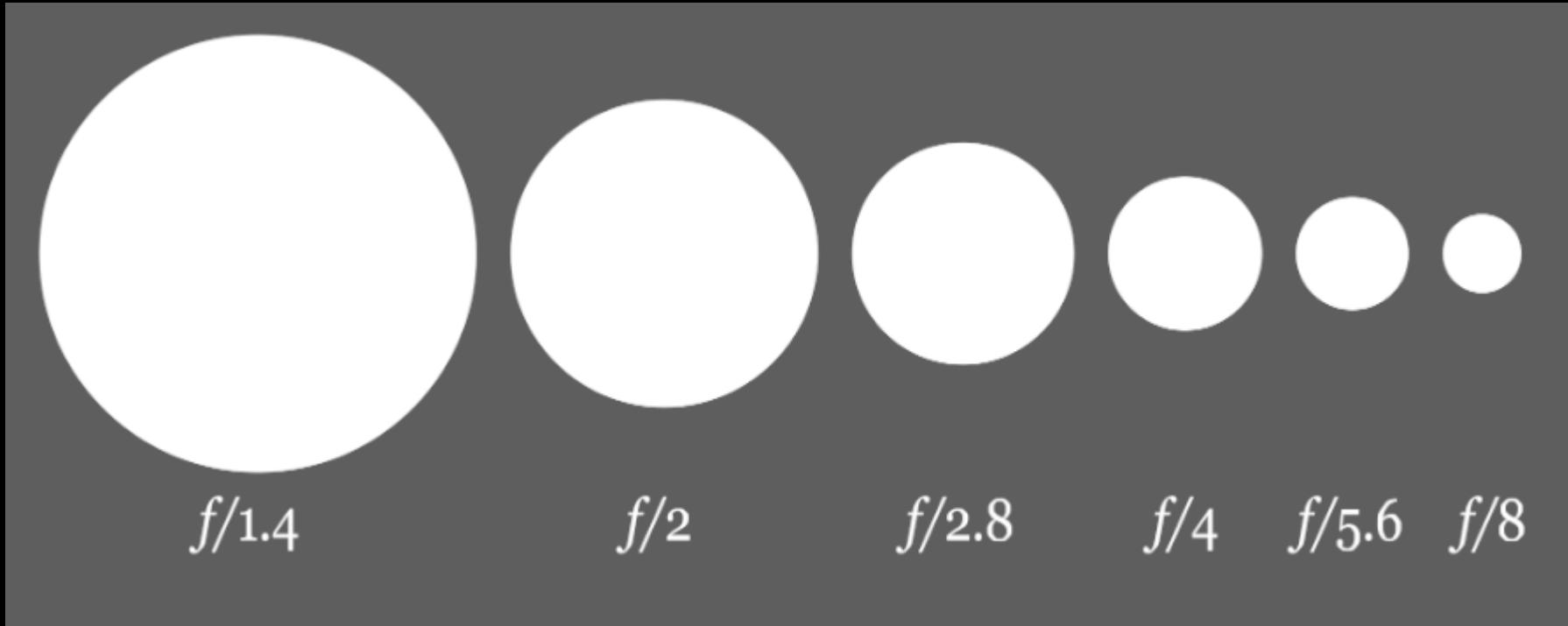
WHAT IS
APERTURE



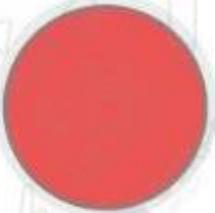
In optics, an **aperture** is a hole or an opening through which light travels.



APERTURE IS MEASURED IN 'F-STOPS'.



APERTURE IS 'THE OPENING IN THE LENS'.



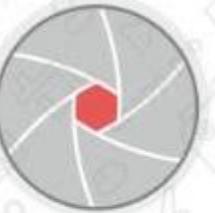
F 2.0



F 3.5



F 5.6



F 8.0

Open aperture Closed aperture

- Photo is lighter
- Background is more blurred
- Used for portrait shooting
- Photo is darker
- Clearer background
- Used for shooting landscapes



SHALLOW
DEPTH
OF FIELD

Jake Olson Studios Copyright 2013

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f/2.8



f/22



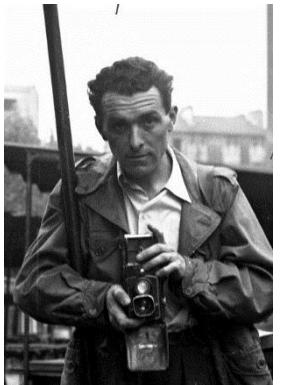
LARGE DEPTH
OF FIELD

f/16

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IF I KNEW HOW TO TAKE A GOOD PHOTOGRAPH ...
... I'D DO IT EVERY TIME

... Robert Doisneau



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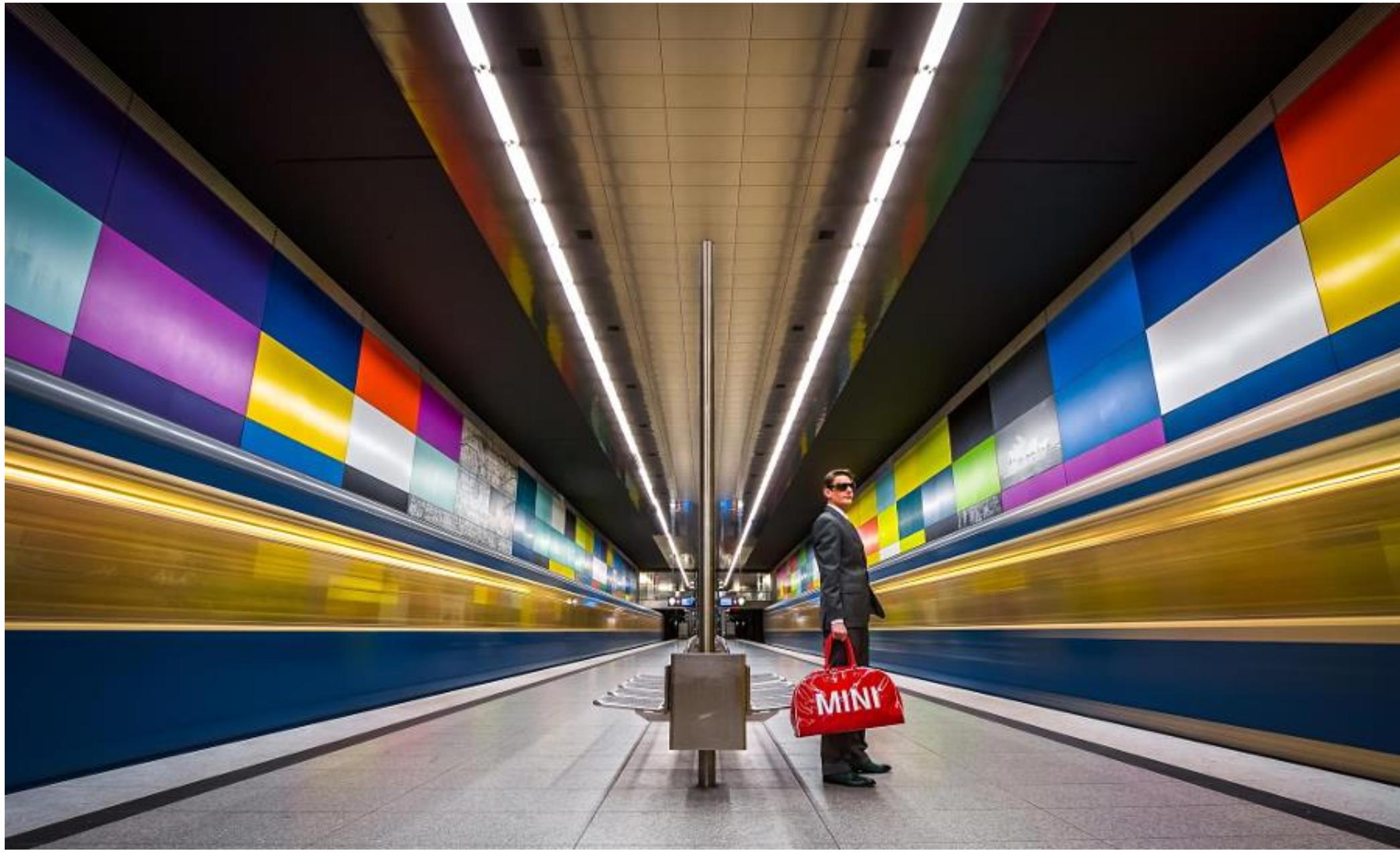
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WHAT IS
SHUTTER SPEED !



In photography, **shutter speed** or exposure time is the length of time when the film or digital sensor inside the camera is exposed to light, also when a camera's **shutter** is open when taking a photograph.



1/250
f/8 ISO 200

1/125
f/8 ISO 200

1/60
f/8 ISO 200

1/30
f/8 ISO 200



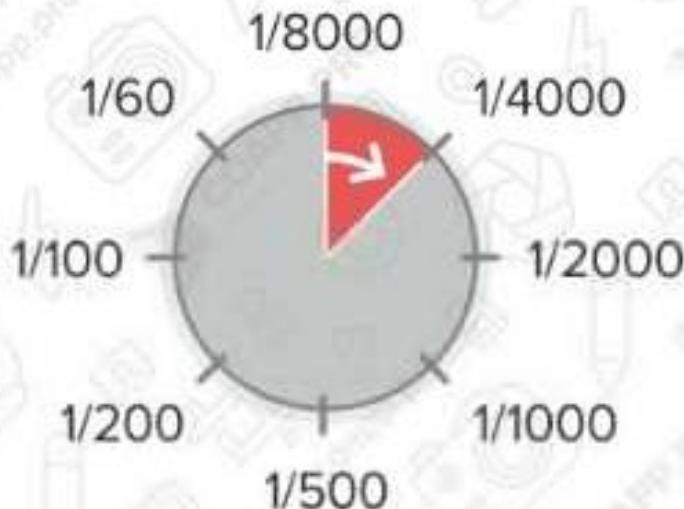
1/15
f/8 ISO 200

1/8
f/8 ISO 200

1/4
f/8 ISO 200

1/2
f/8 ISO 200

Short exposure interval

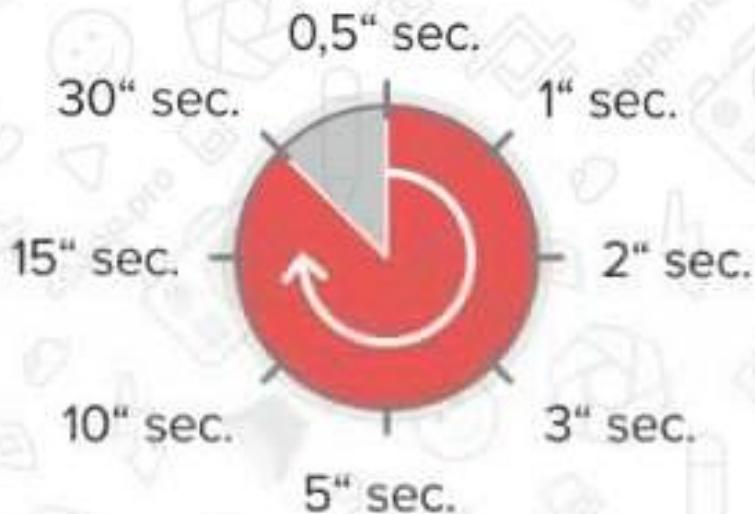


Exposure
1/4000 sec.



Freezes the motion

Long exposure interval



Exposure
1/25 sec.



Shows the motion

Exposure
1 sec.



Blurred subject



114 sec

© Tyler Westcott

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1/3200

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F-14 25 Seconds

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F-14 30 Seconds

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SHUTTER SPEED: 13/1

APERTURE: F/22

ISO SPEED: 100

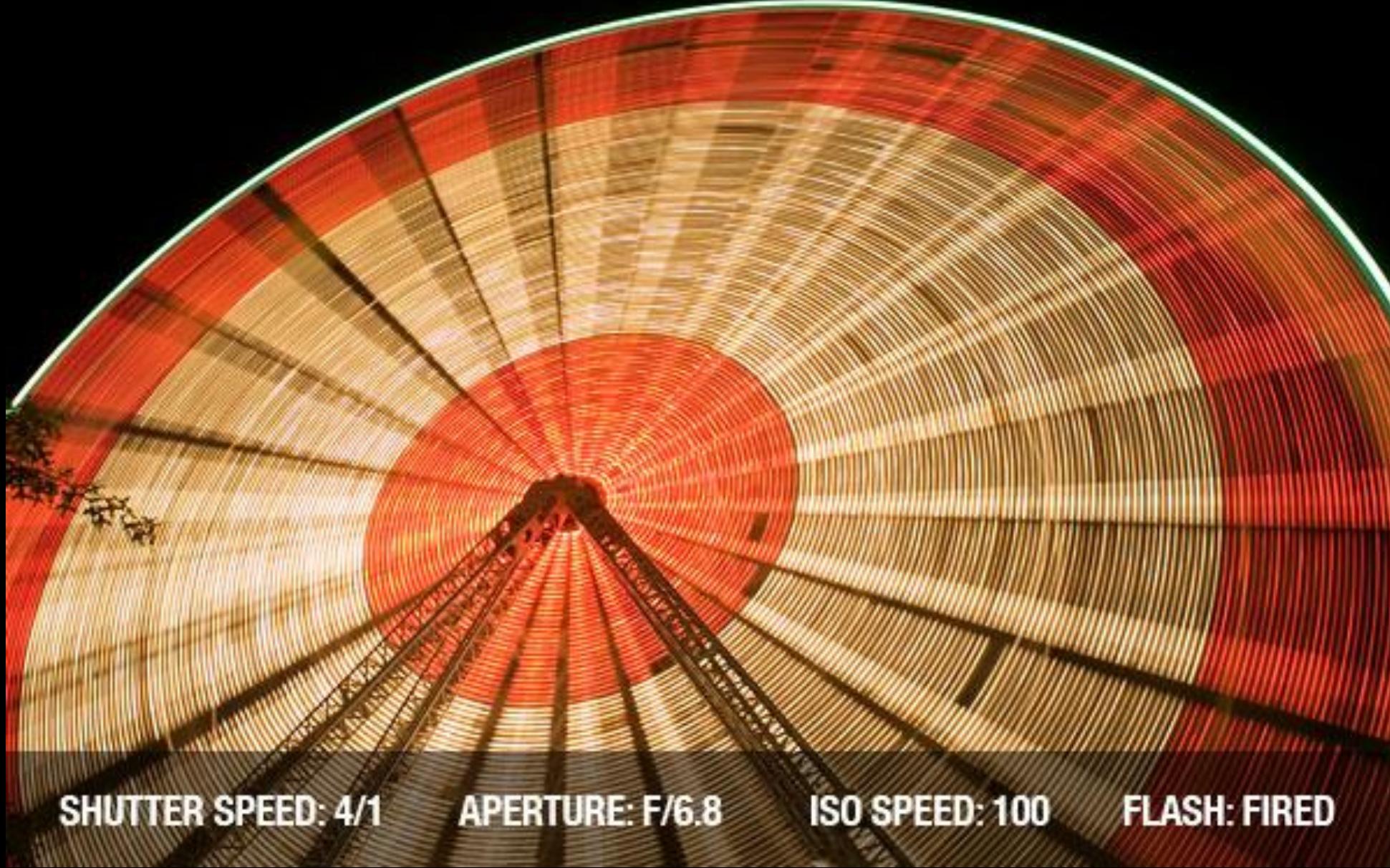
FLASH: NOT FIRED

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SHUTTER SPEED: 181 MIN APERTURE: F/4 ISO SPEED: 3200 FLASH: NOT FIRED

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SHUTTER SPEED: 4/1

APERTURE: F/6.8

ISO SPEED: 100

FLASH: FIRED

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60 minutes

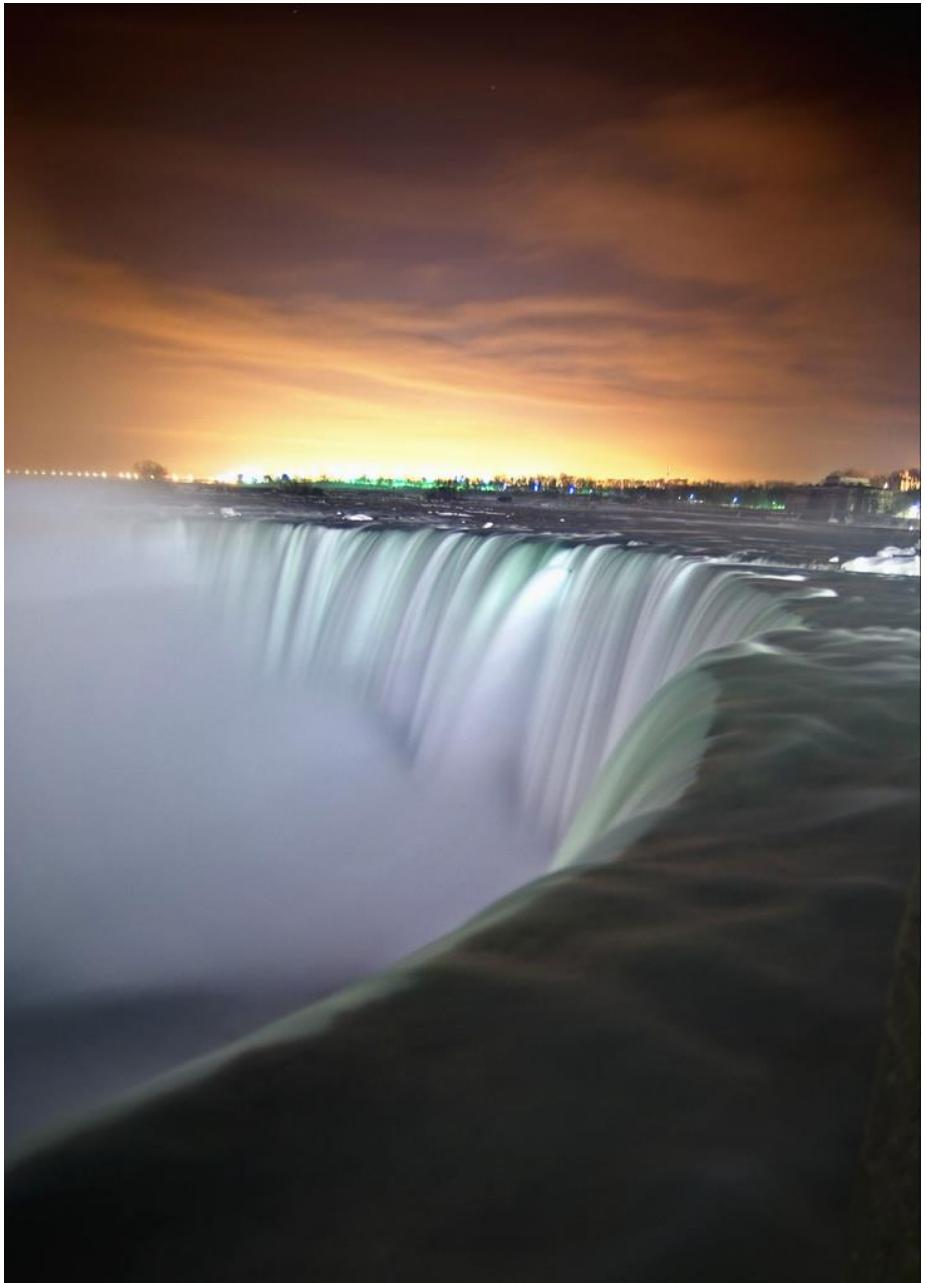
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20 sec

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30 sec

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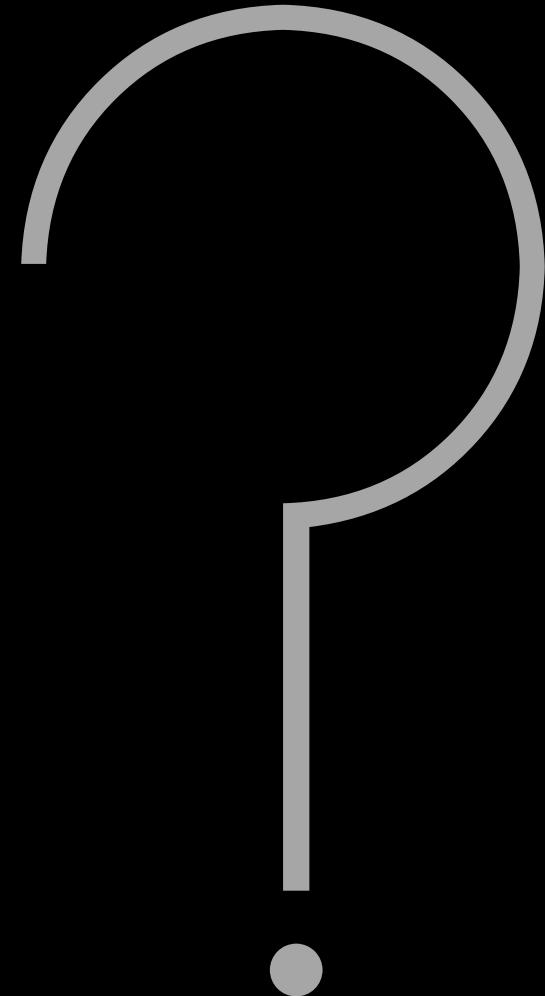


656 sec

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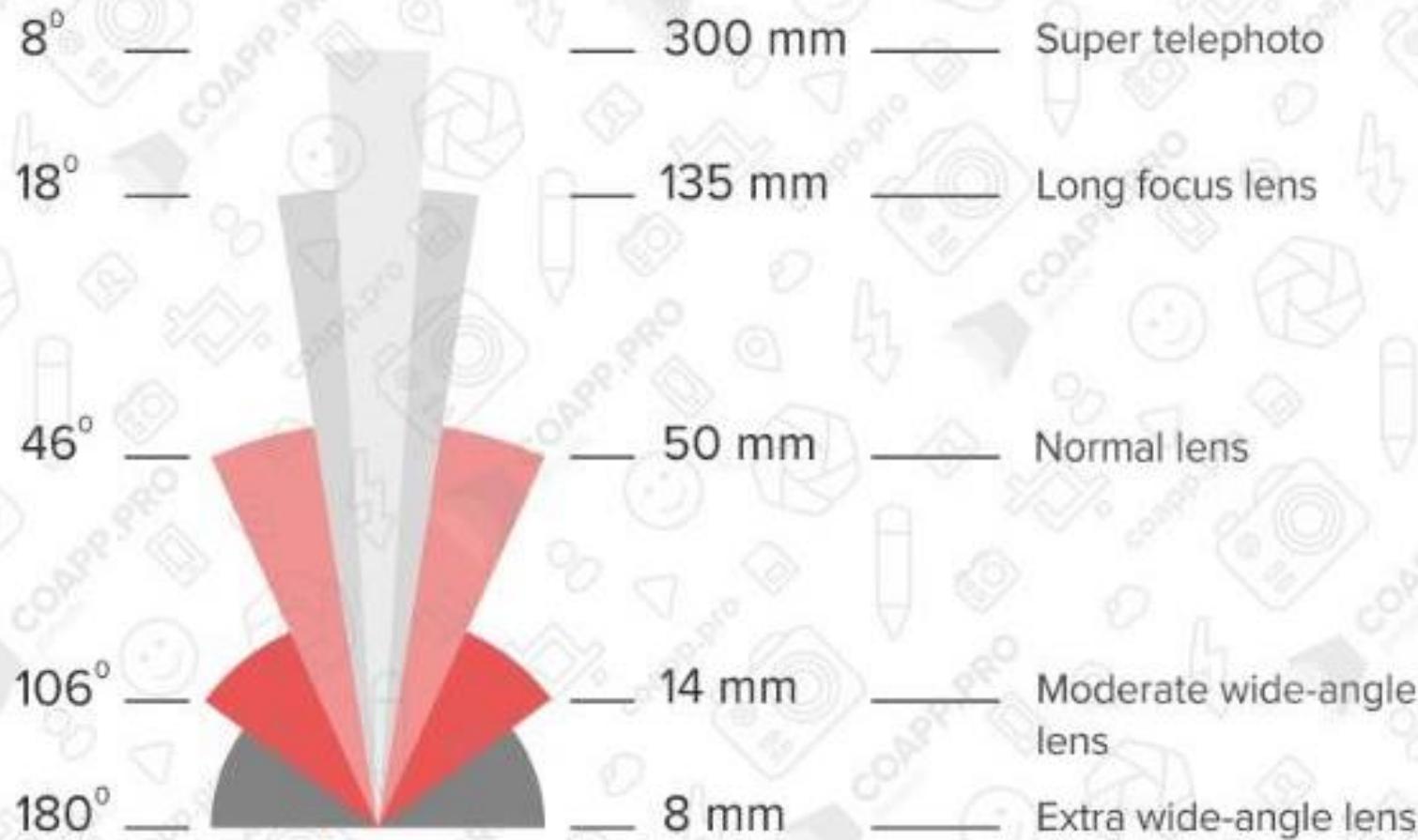
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WHAT IS
FOCAL LENGTH

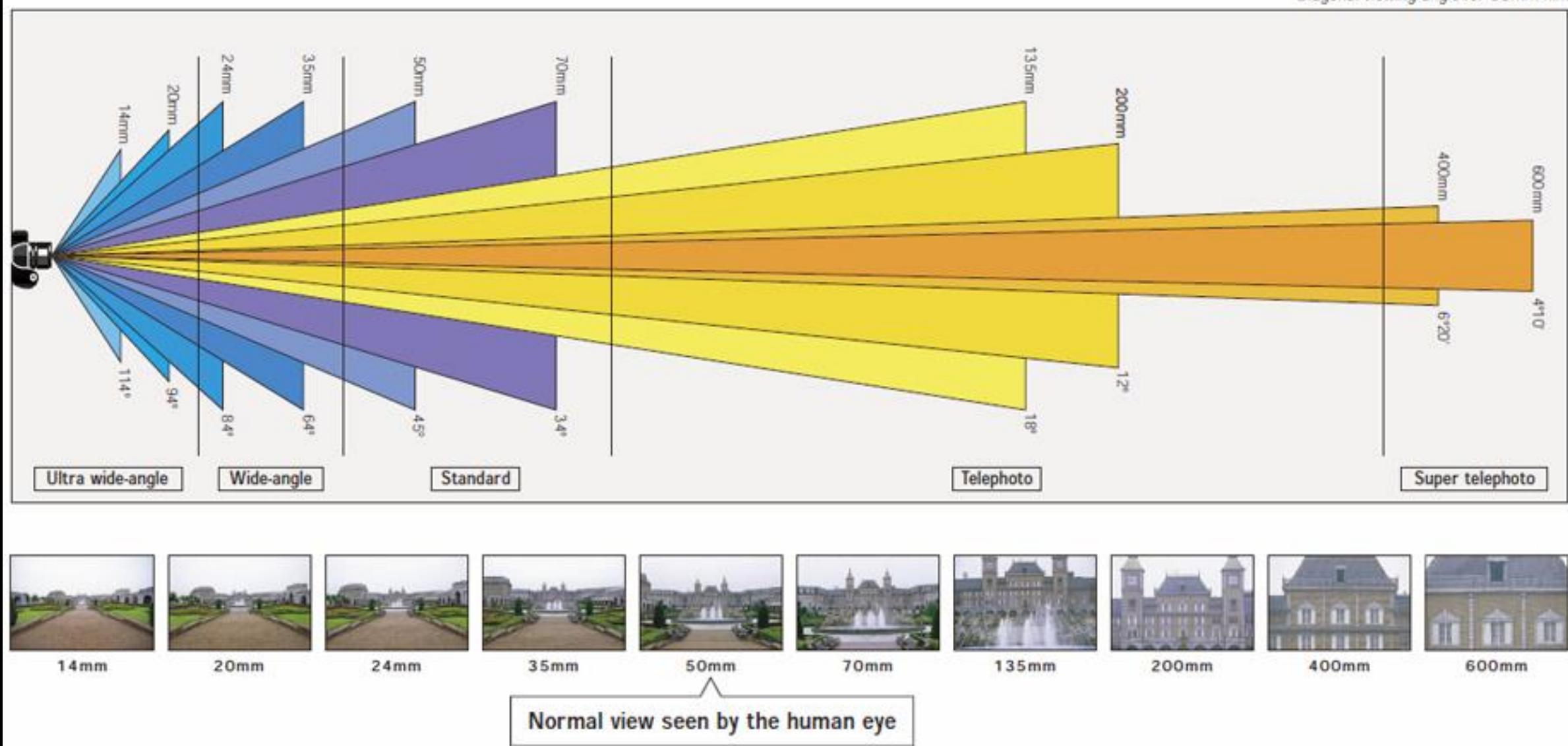


Viewing angle

Focal length



Diagonal viewing angle for 35mm film





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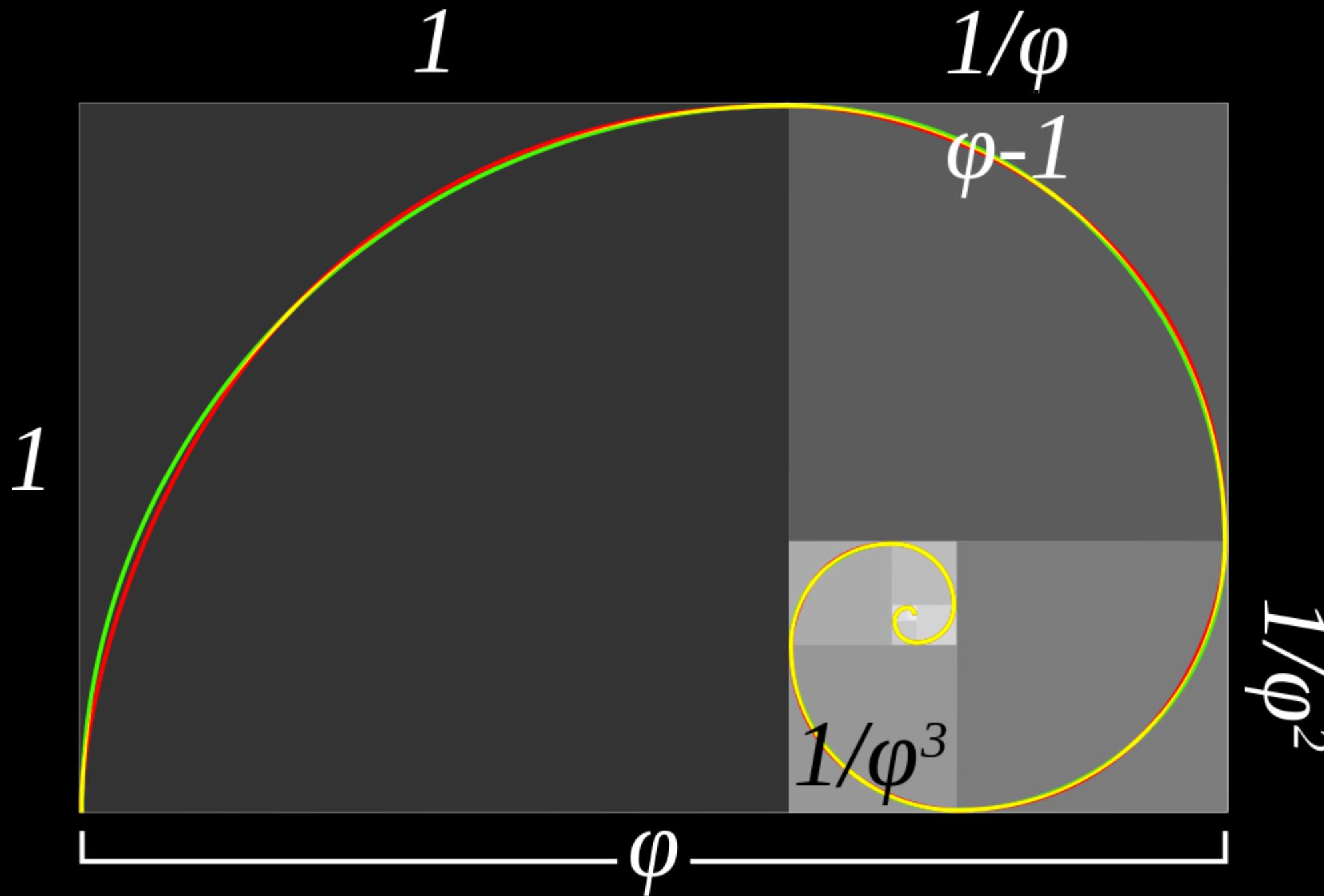


Φφ

QUIZ



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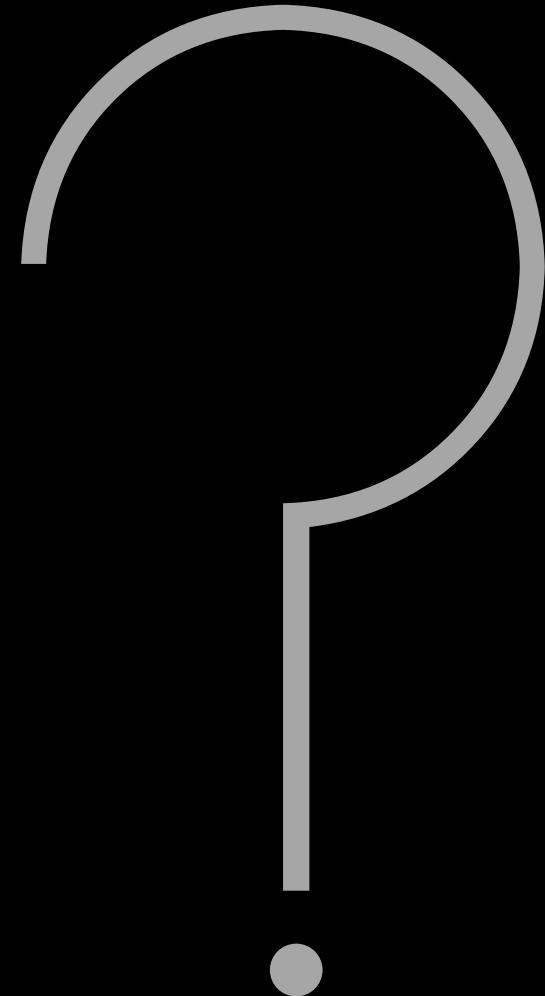
TWO QUANTITIES A AND B ARE SAID TO BE IN
THE GOLDEN RATIO ϕ IF

$$\frac{a+b}{a} = \frac{a}{b} = \varphi.$$

1.6180339887498948482...

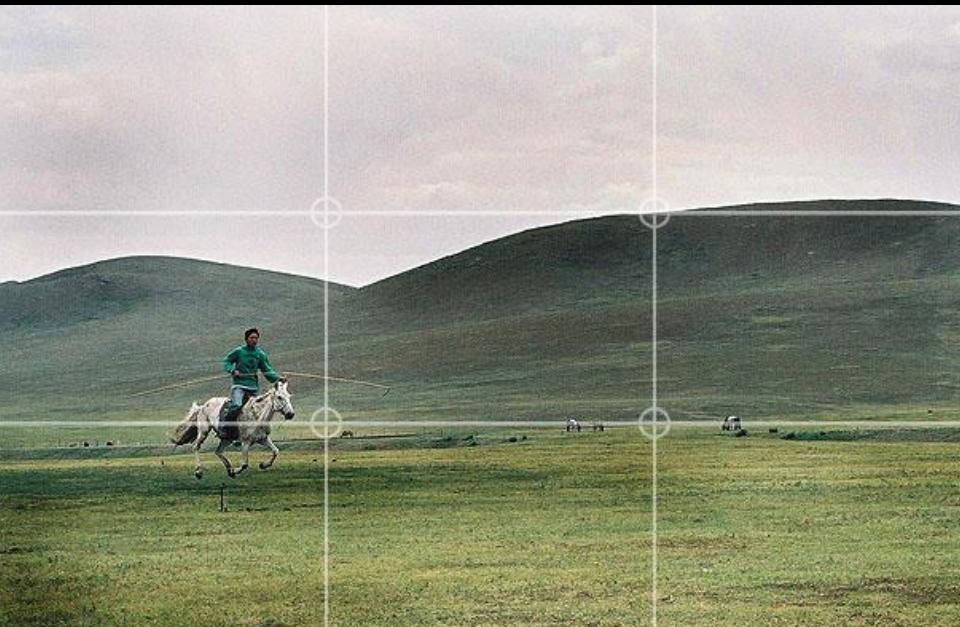
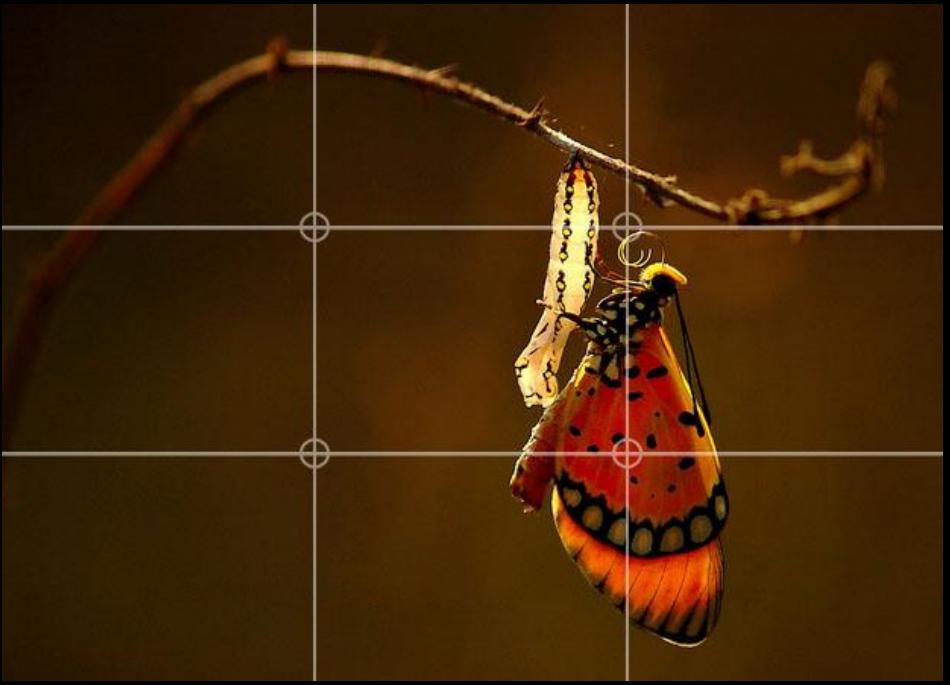
RULE OF
THIRDS

THE GOLDEN
RATIO

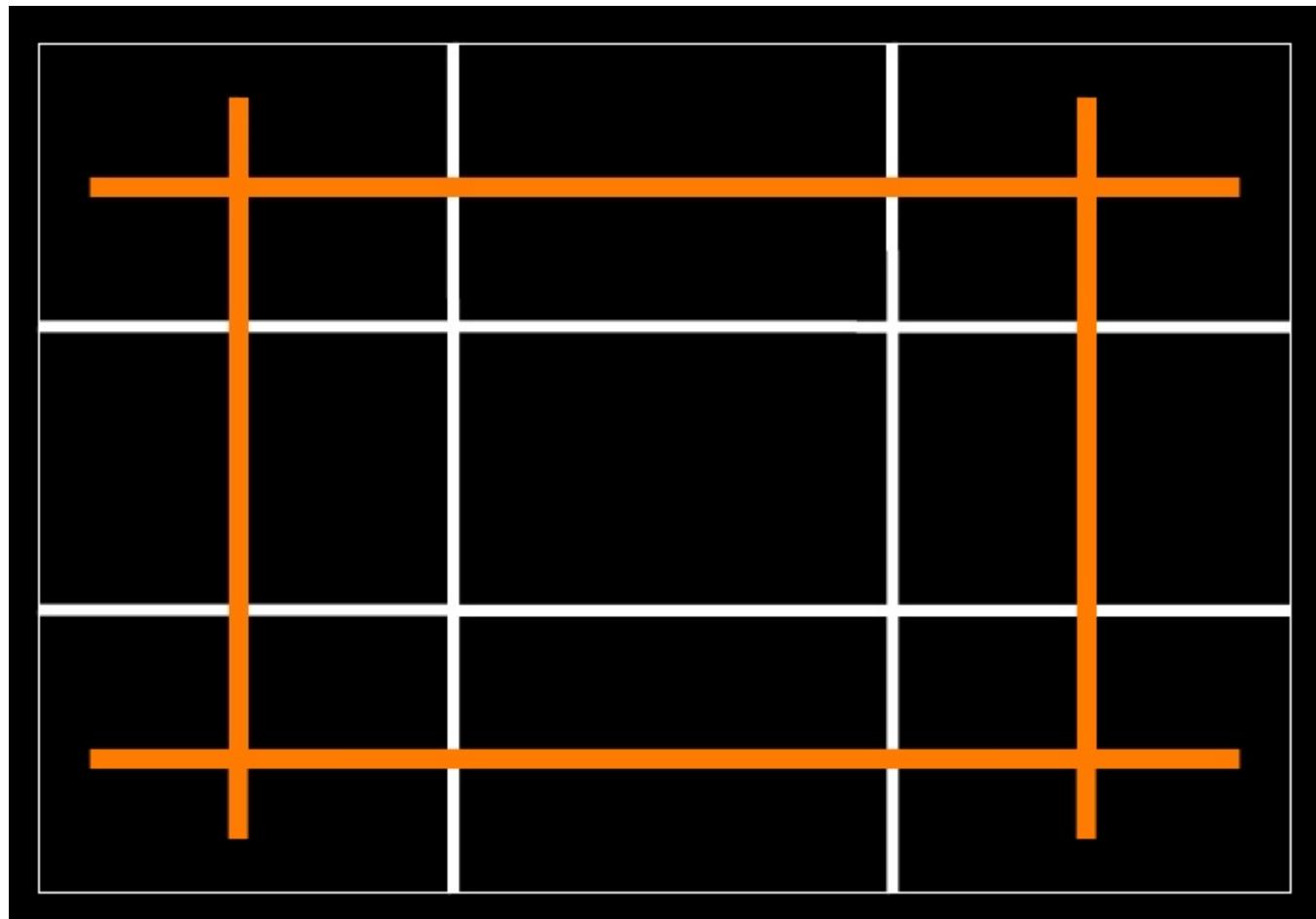


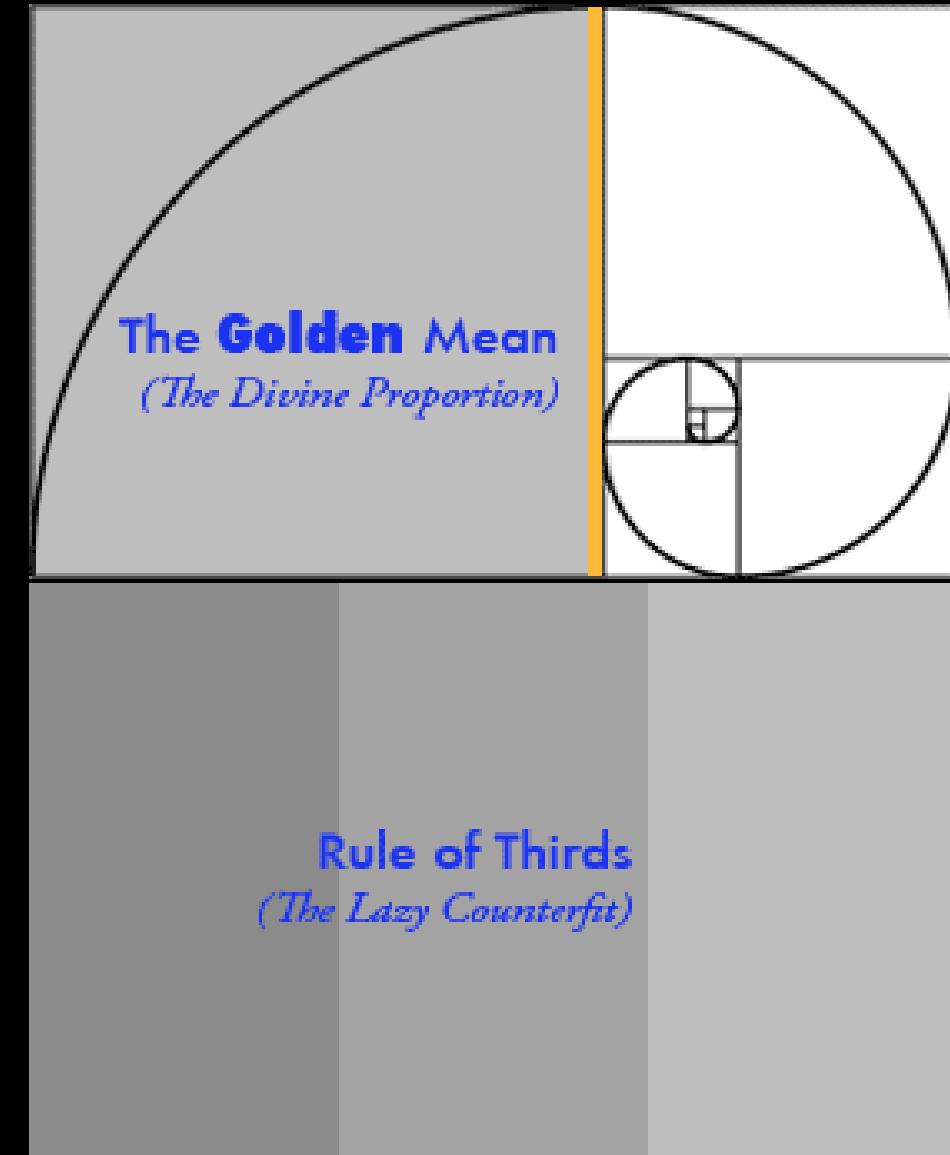


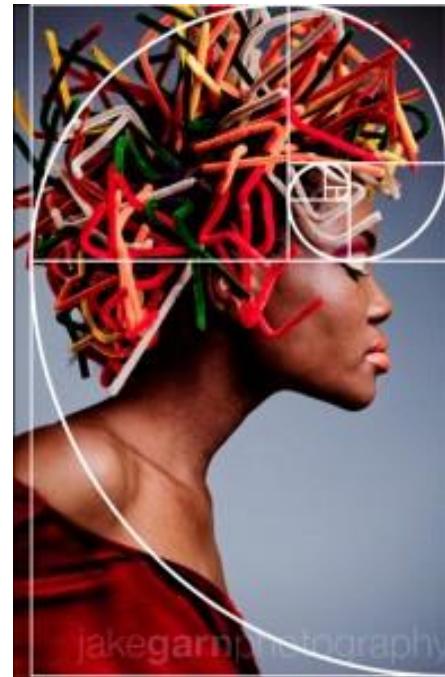
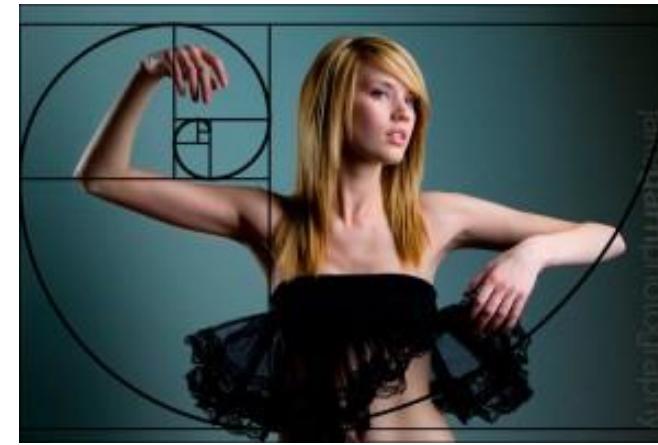
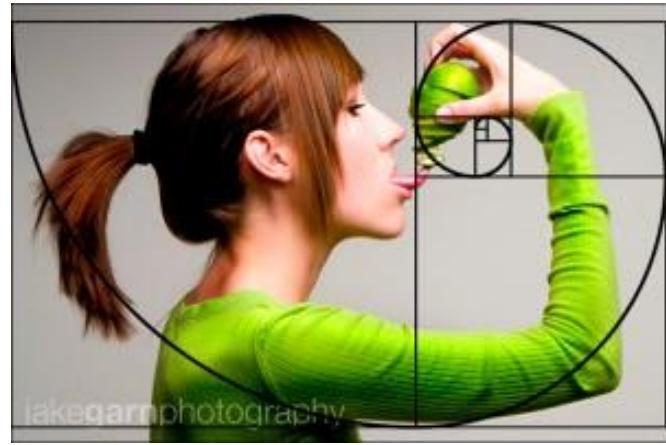
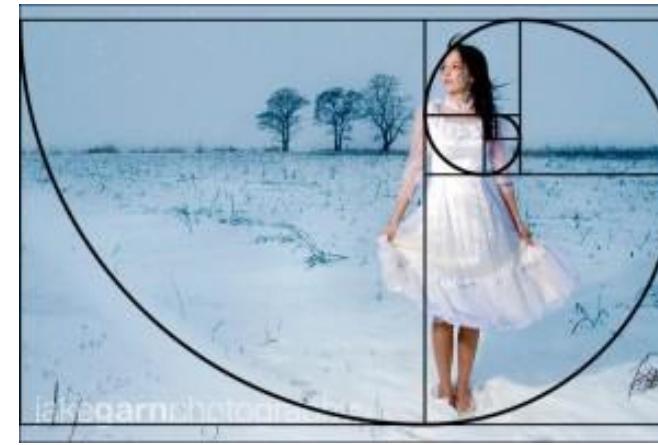
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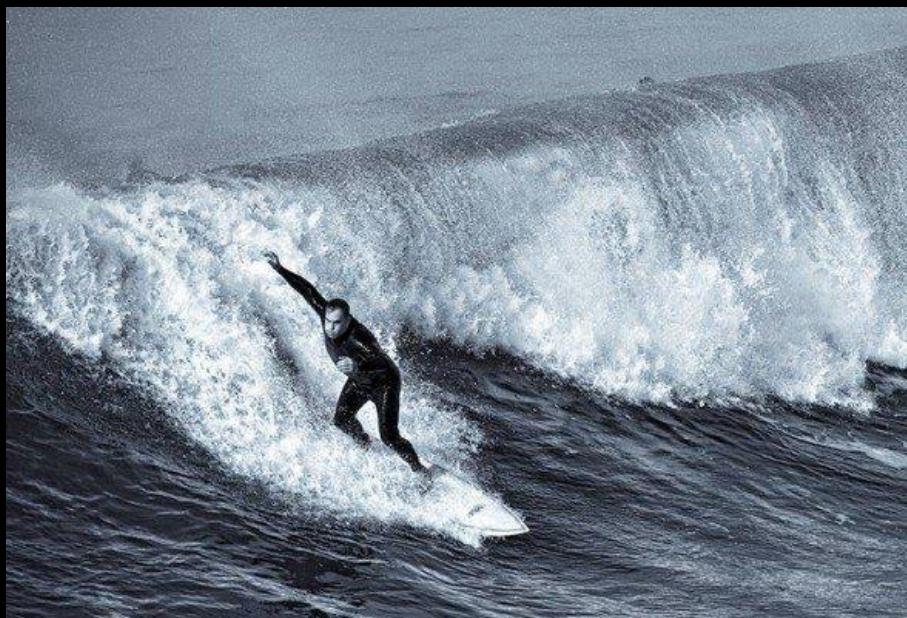
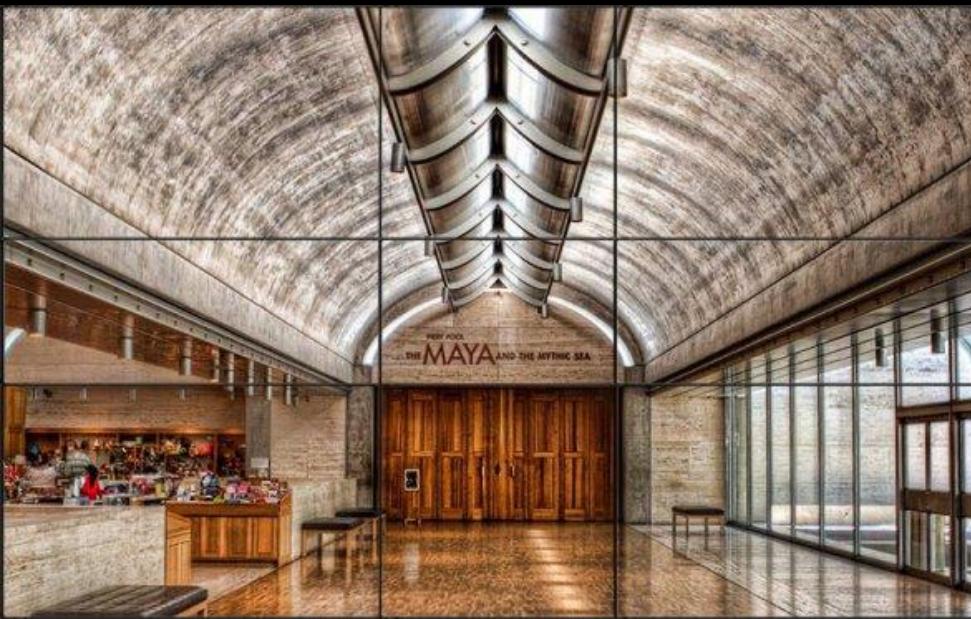
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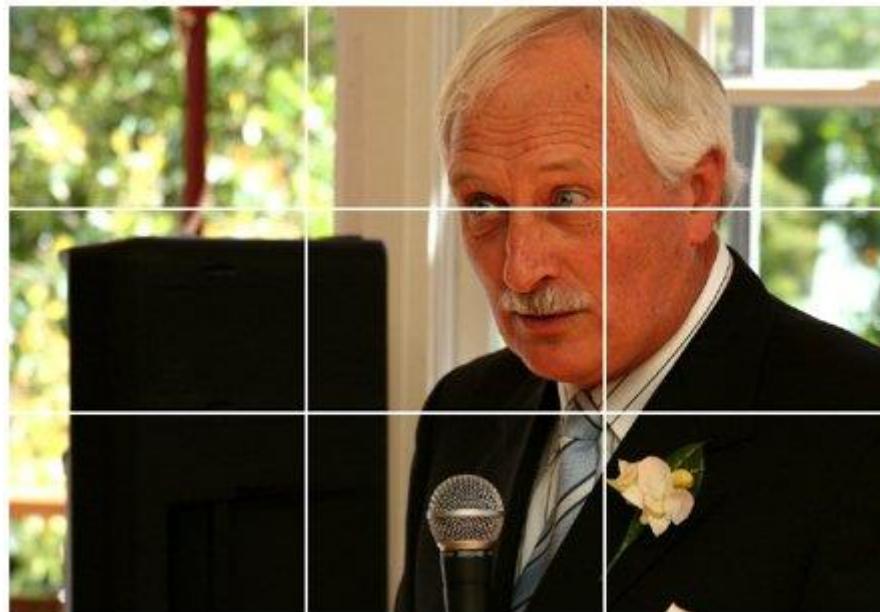
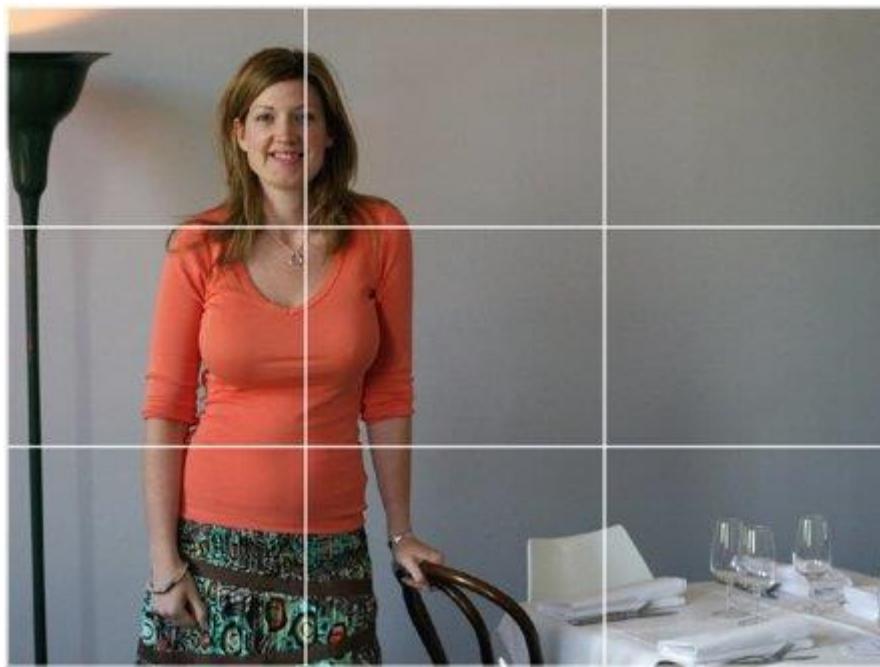




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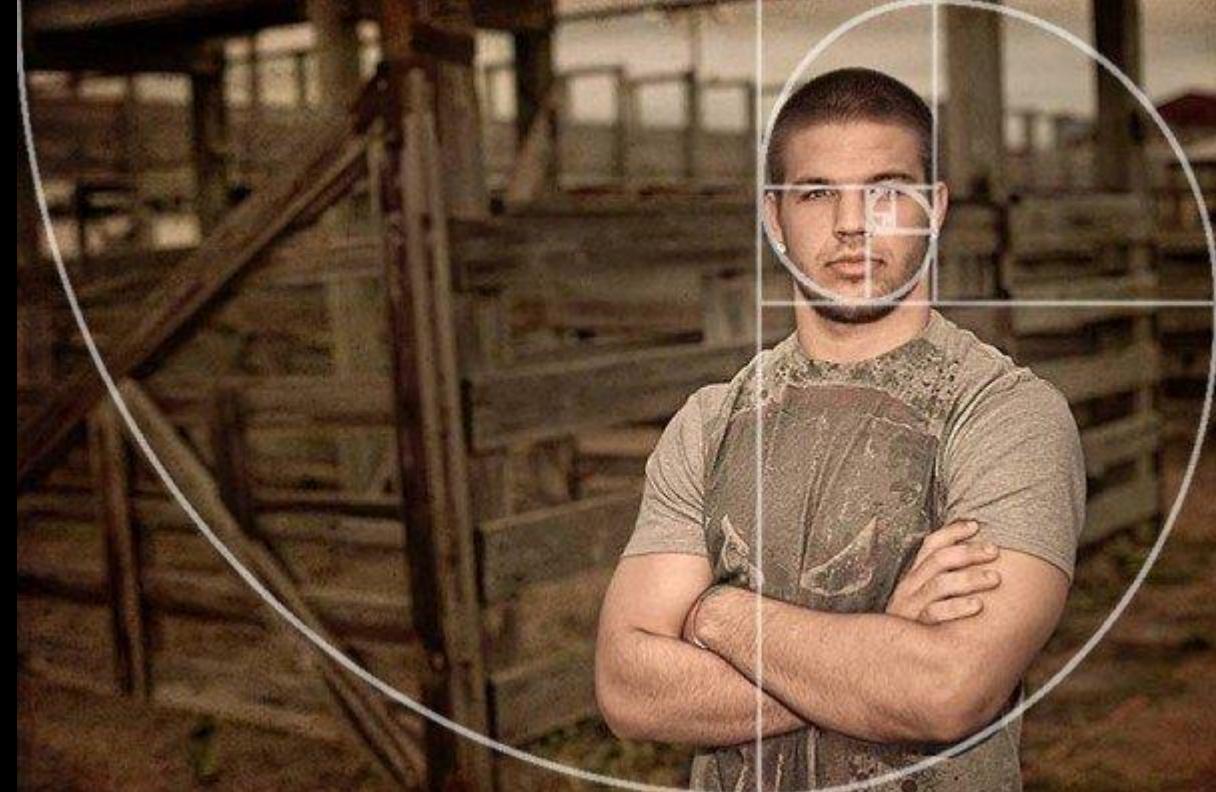
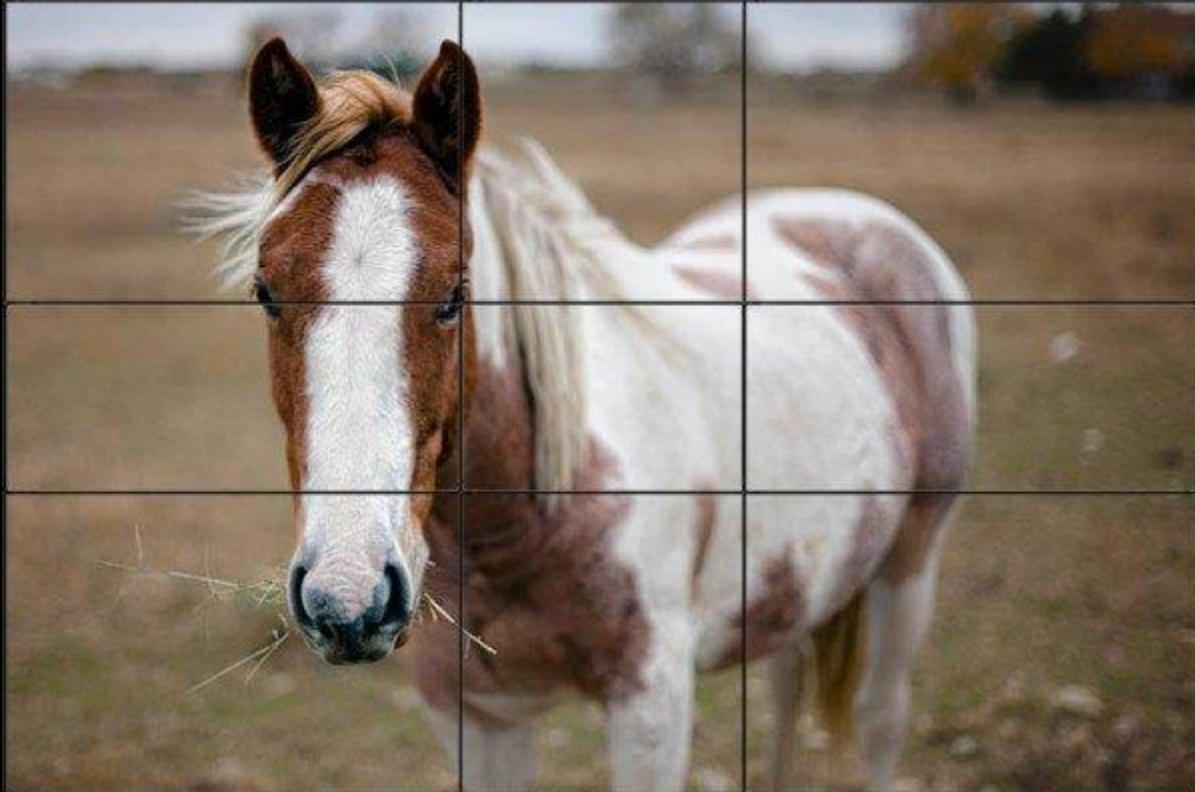


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DIVINE COMPOSITION WITH FIBONACCI'S RATIO (THE RULE OF THIRDS ON STEROIDS)



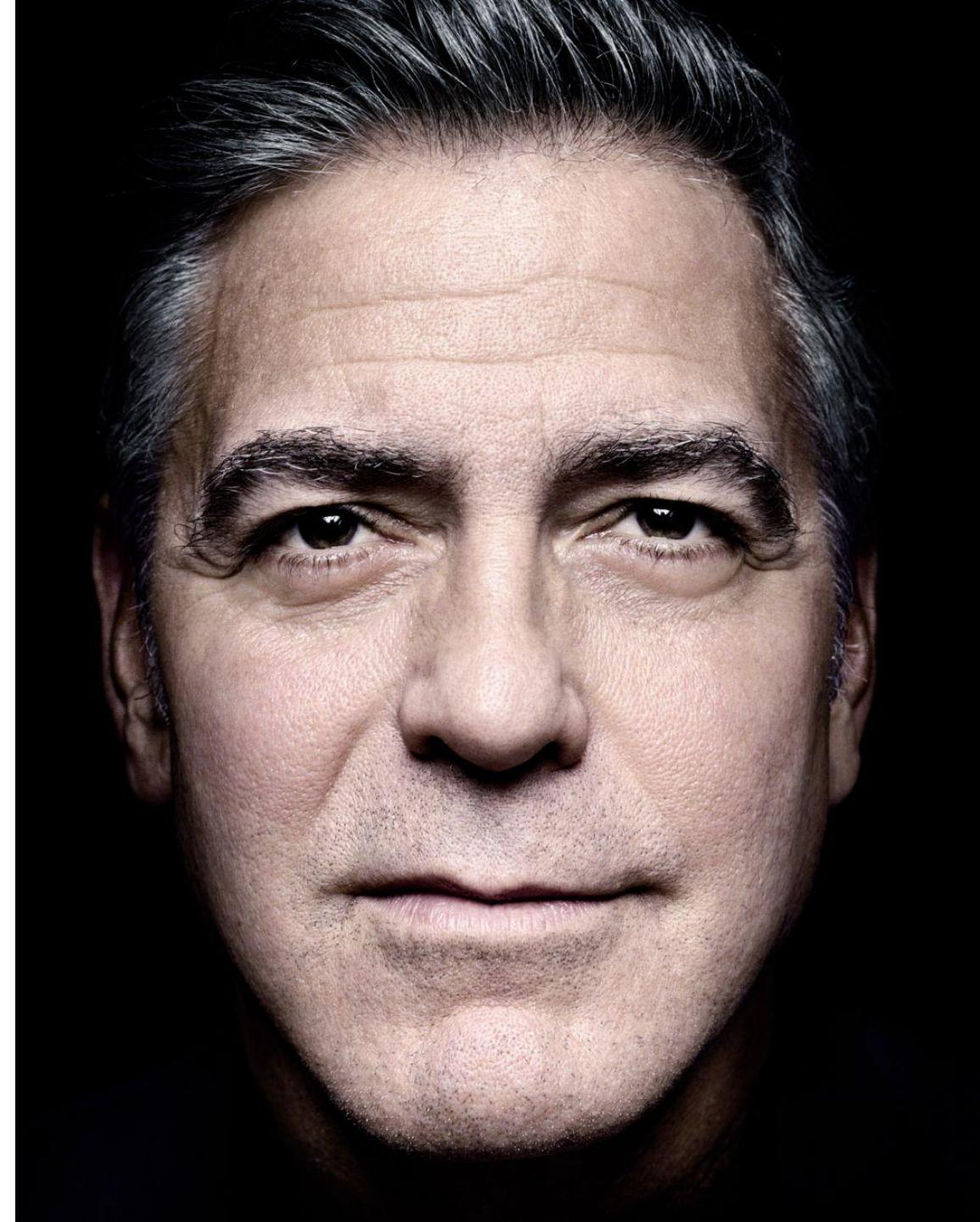
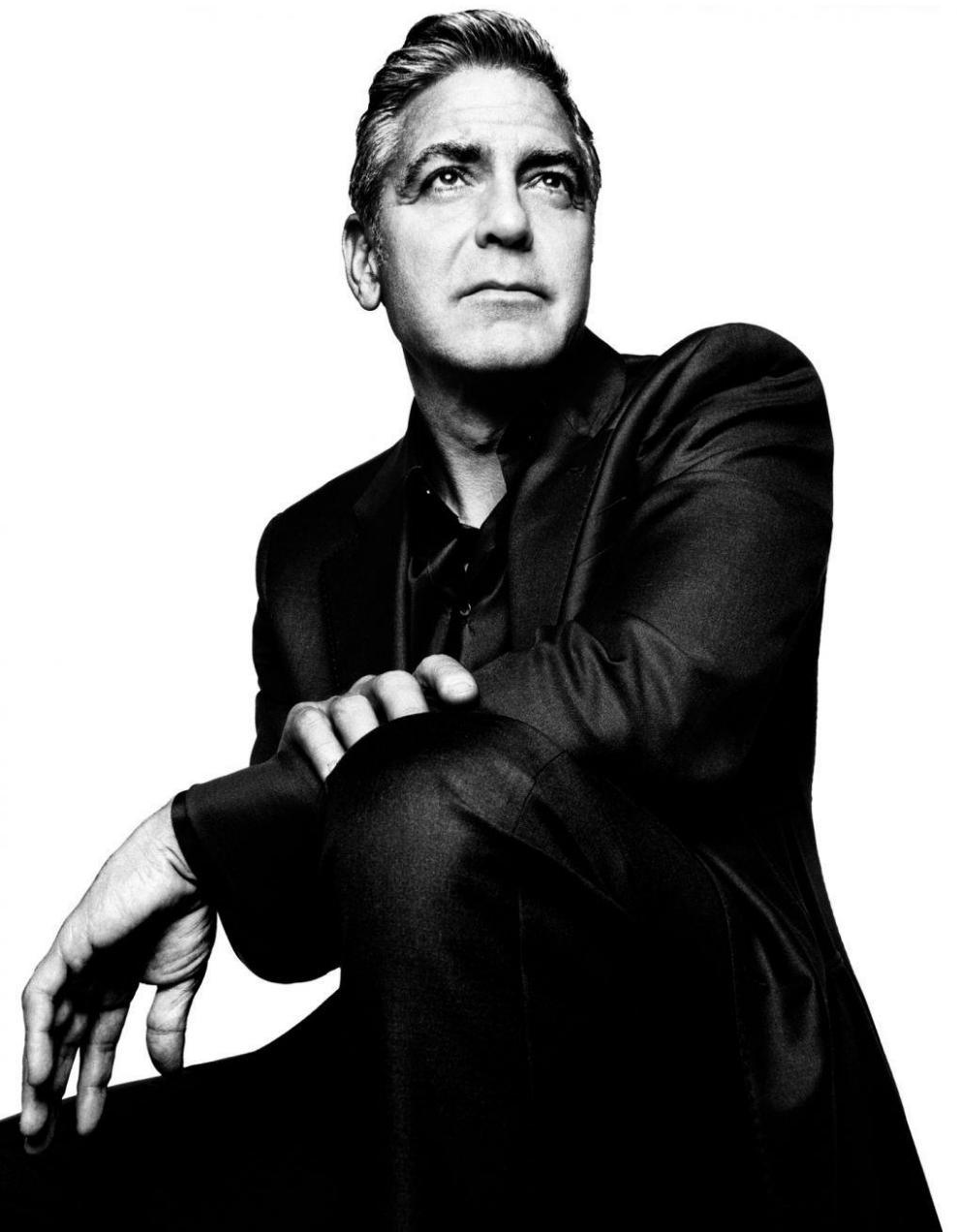
MORE ON
COMPOSITIONS

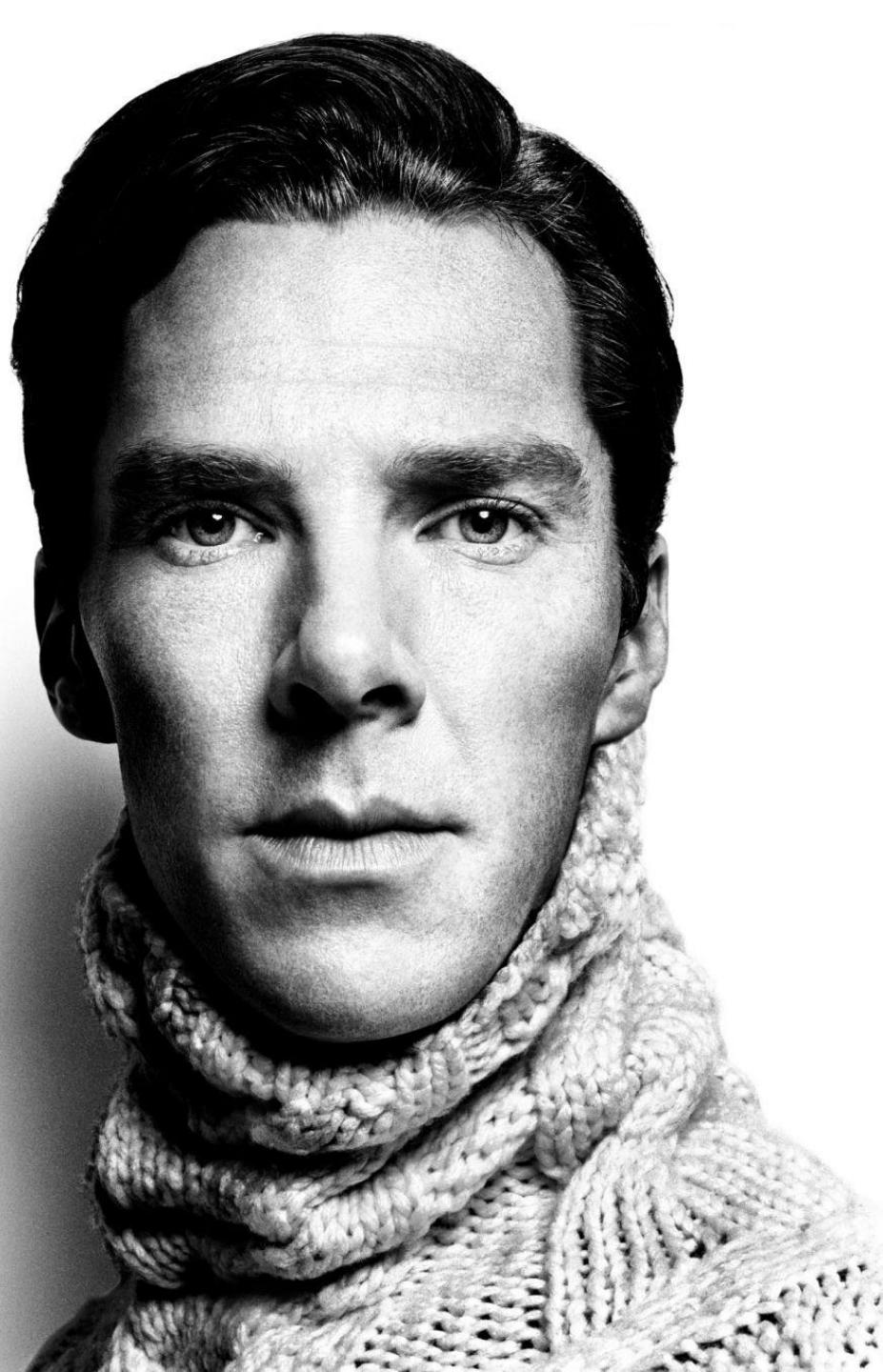


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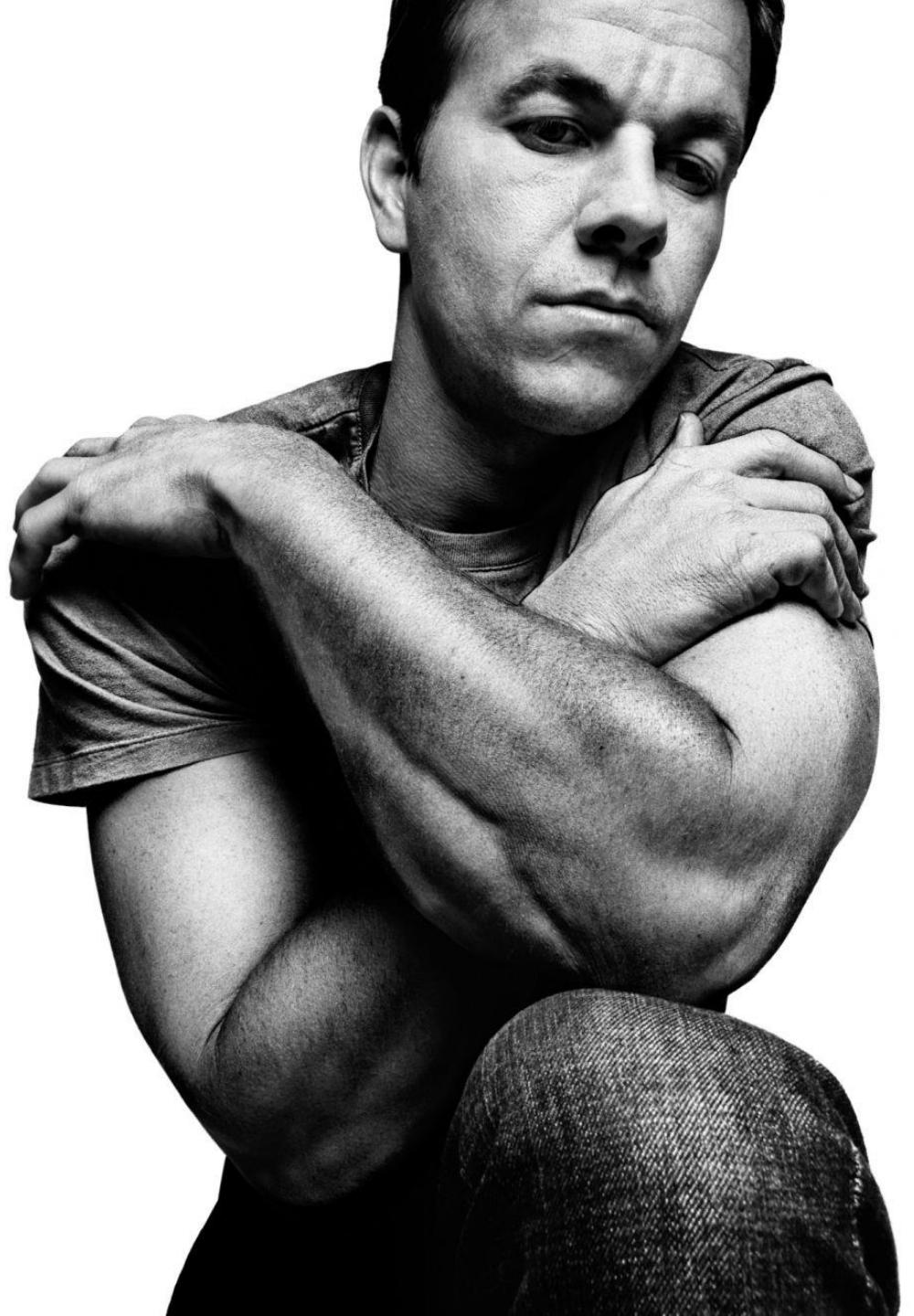




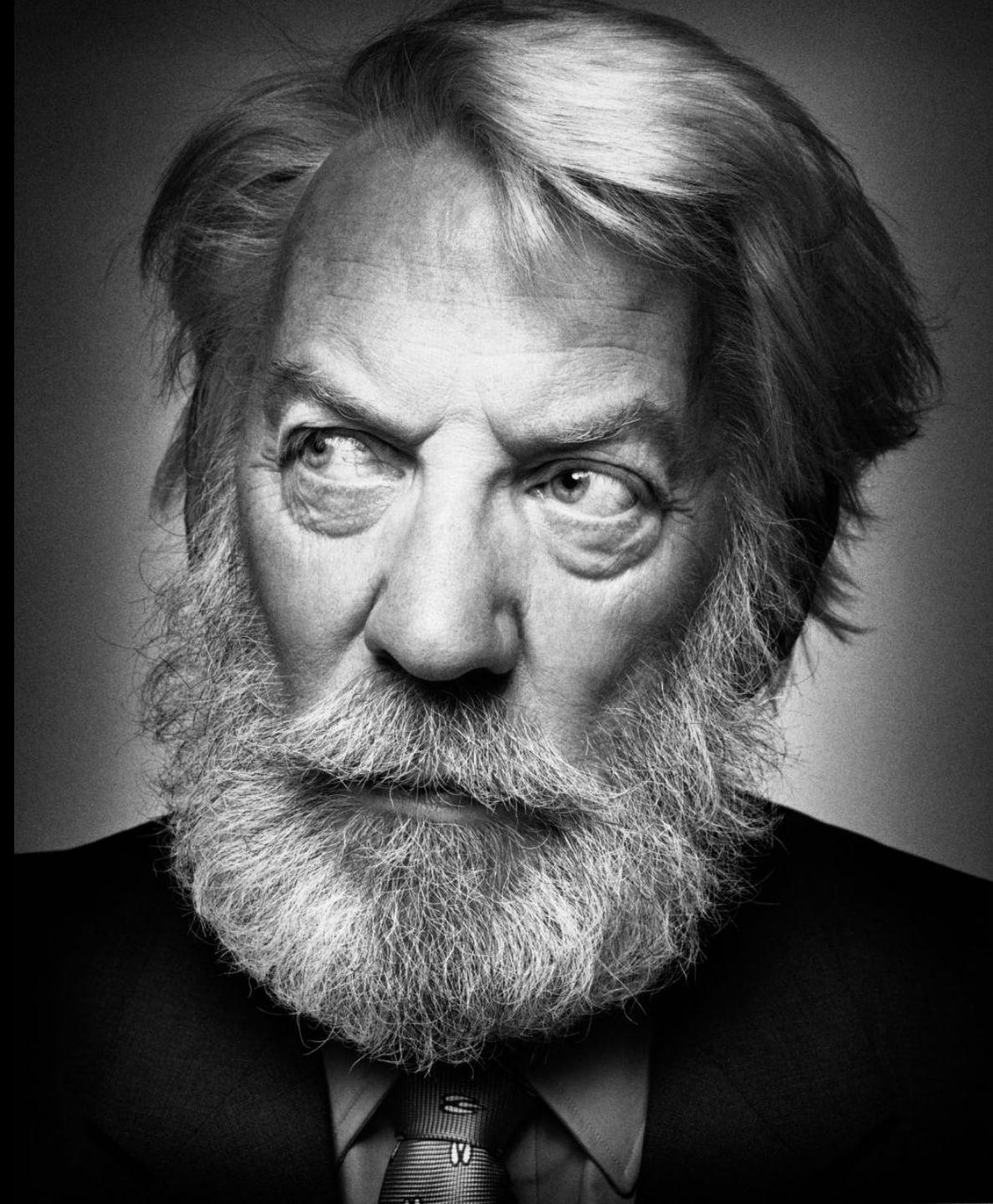
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SINGLE DOMINANT SUBJECT



POINT OF VIEW

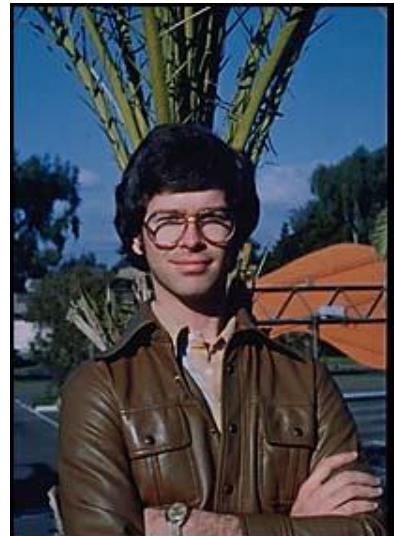
Try selecting and unusual point of view.



DO NOT CUT SOMEONE ☺



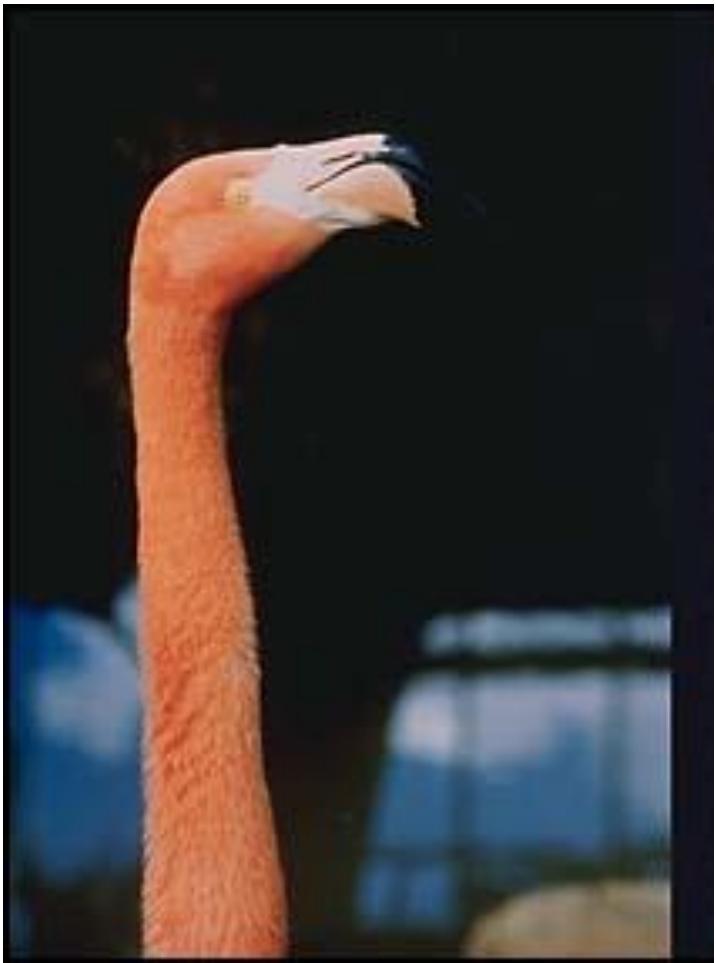
AVOID MERGERS



LOOK FOR BALANCE



LOOK FOR LINES



LOOK FOR LINES



LOOK FOR CURVES (S CURVES)





LINES & CURVES

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FRAMING



FILL THE FRAME



ANGLE OF LIGHT

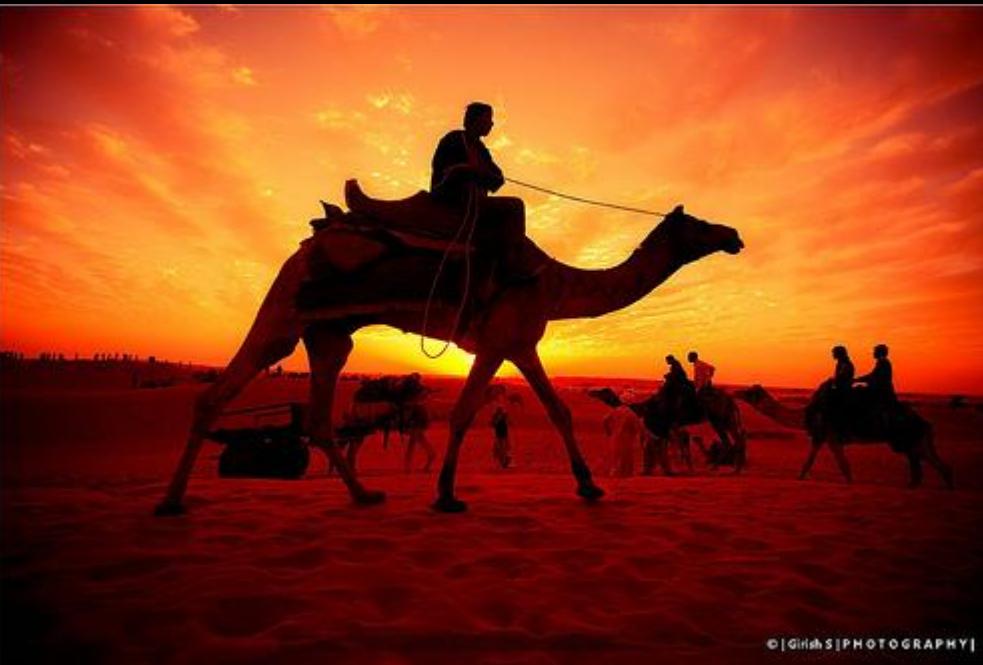


FILL THE FRAME



GOLDEN HOUR

In photography, the golden hour (sometimes known as magic hour, especially in cinematography) is a period shortly after sunrise or before sunset during which daylight is redder and softer than when the Sun is higher in the sky.



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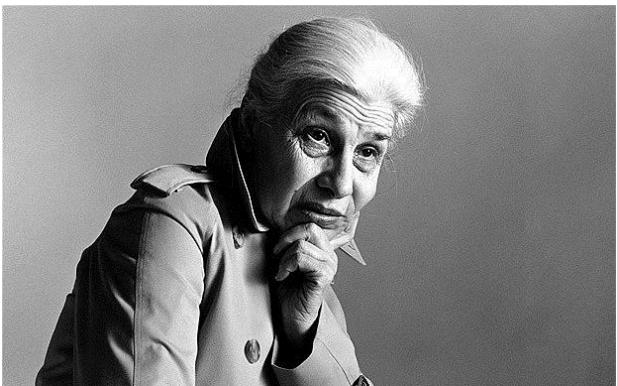
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TIME OF DAY



IT IS THE PHOTOGRAPHER, NOT THE CAMERA...
...THAT IS THE INSTRUMENT

...Eve Arnold



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thank you

ADDITIONAL MATERIAL

MP	4X6	5X7	8X10	11X14	16X20
2	Exc	Good	Fair	Poor	Poor
3	Exc	Exc	Good	Fair	Poor
4	Exc	Exc	Exc	Good	Fair
5	Exc	Exc	Exc	Exc	Good
8	Exc	Exc	Exc	Exc	Exc
11	Exc	Exc	Exc	Exc	Exc

Depth of Field



Shallow Depth of
Field (F2.8)



Wide Depth
of Field (F32)

ISO

SOME CAMERAS CLAIM TO HAVE "DIGITAL IMAGE STABILIZATION"

THIS JUST MEANS THAT THE CAMERA WILL AUTOMATICALLY INCREASE THE ISO IN ORDER TO ALLOW A FASTER SHUTTER SPEED

FASTER SHUTTER SPEED WILL REDUCE THE LIKELIHOOD OF CAMERA SHAKE. BUT HIGH ISO WILL MOST LIKELY RESULT IN A GRAINY IMAGE.

Framing

- Adds depth
- Should fit theme
- Watch focus on foreground
 - Focus on foreground in landscape
 - Focus on subject in portraits
 - Auto-focus should be centered on main topic
 - Overall—**Depends on camera**

Fill the frame

- Would this picture look better if I was closer?
 - Focus on subject
 - Detail
- Start far and move closer
- Fill the frame with objects that “fit”
- Long range shots provide depth and perspective

Pick a good light direction

- Three light directions
 - Front - sunny with high color
 - Side - depth and texture
 - Back - dynamic but challenging; silhouettes and water effects



"It is the photographer, not the camera, that is the instrument." Eve Arnold

DSLR, Megapixels, Image Stabilisation, Dust Reduction, Live View, Sensors, facial recognition.....

What does it all mean?
(and why does it matter to me?)

BUT WHY?

HOW CAN A 6 MEGAPIXEL DSLR TAKE A BETTER PICTURE THAN A 10 MEGAPIXEL POINT AND SHOOT?

BECAUSE SIZE MATTERS!

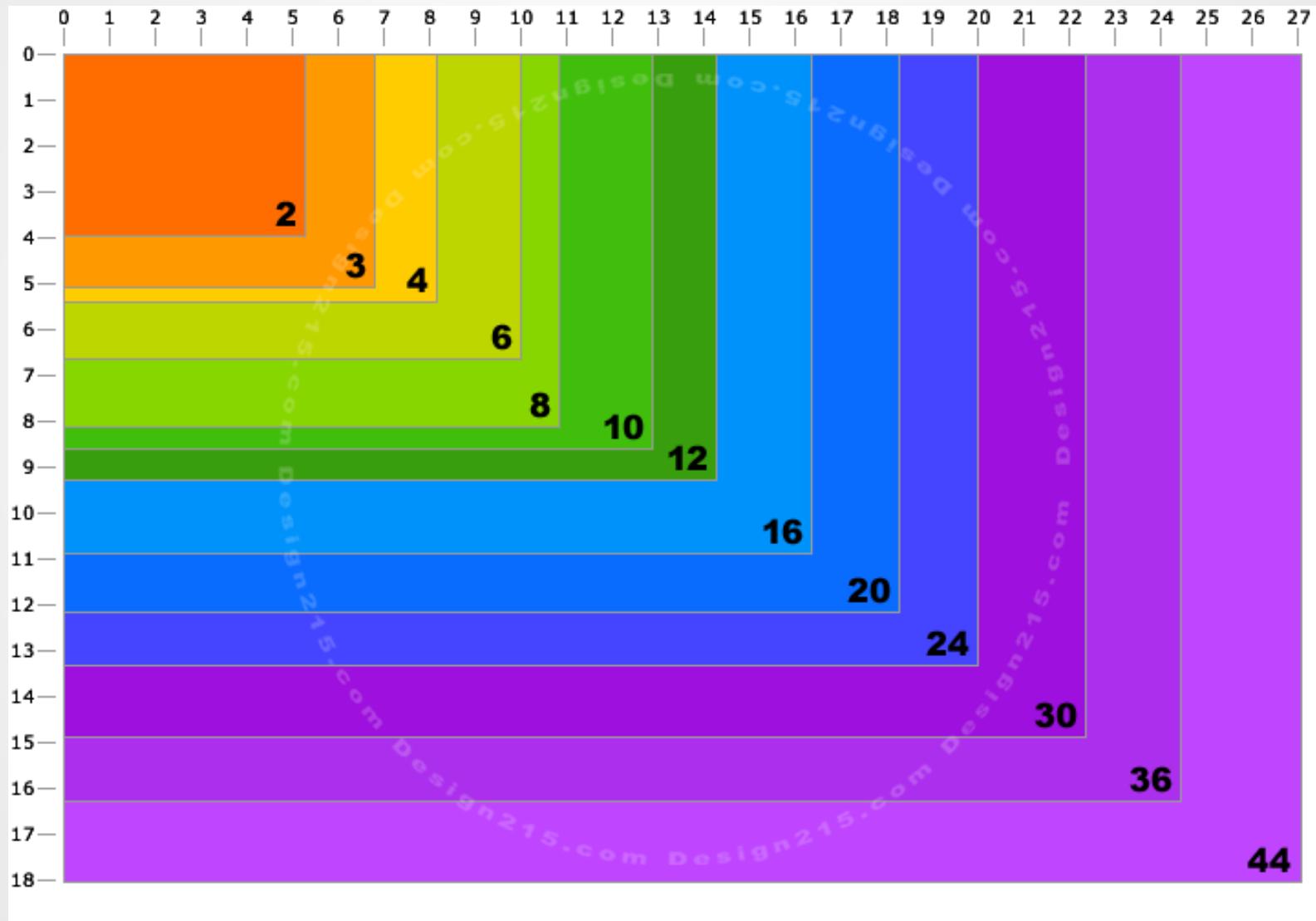
How the digital sensor works

- EACH DIGITAL IMAGE IS MADE FROM MILLIONS OF TINY SQUARES, KNOWN AS PIXELS.



- ESSENTIALLY, AN IMAGE IS RECORDED BY TINY MICRO LENSES (PIXELS) WHICH MAKE UP THE CAMERAS SENSOR

Megapixels Vs. Print Size



• PHOTOGRAPHY TIPS №3/15 •

<http://coapp.pro>

Low ISO number
in good lighting



100



400



800



1600



6400

High ISO number
in bad lighting

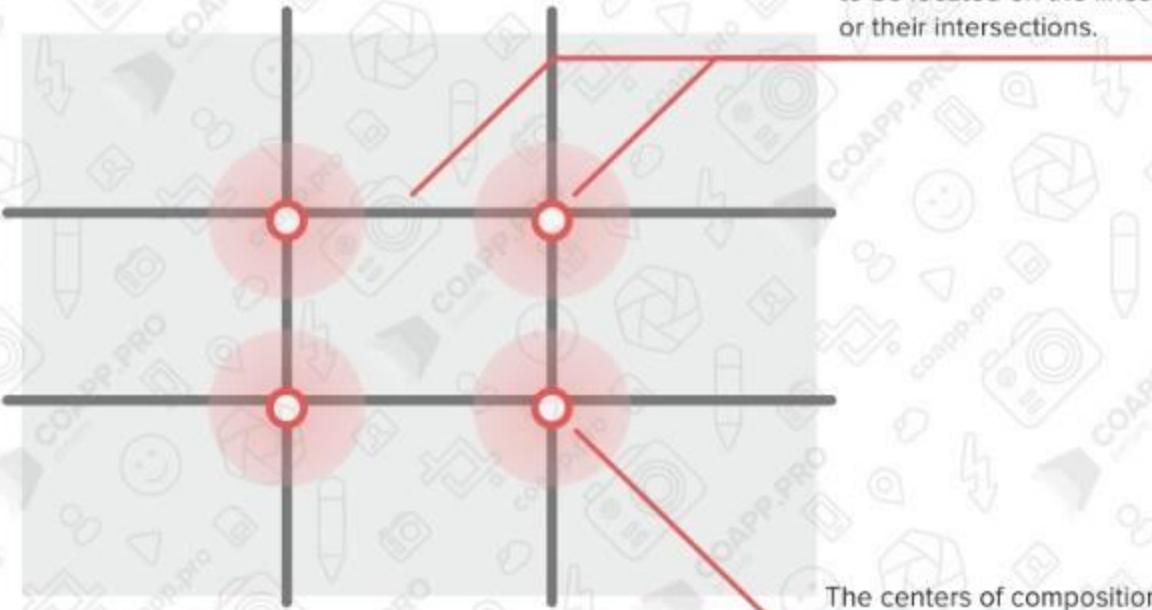


• PHOTOGRAPHY TIPS №5 /15 •

<http://coapp.pro>

The basics of composition. The rule of thirds

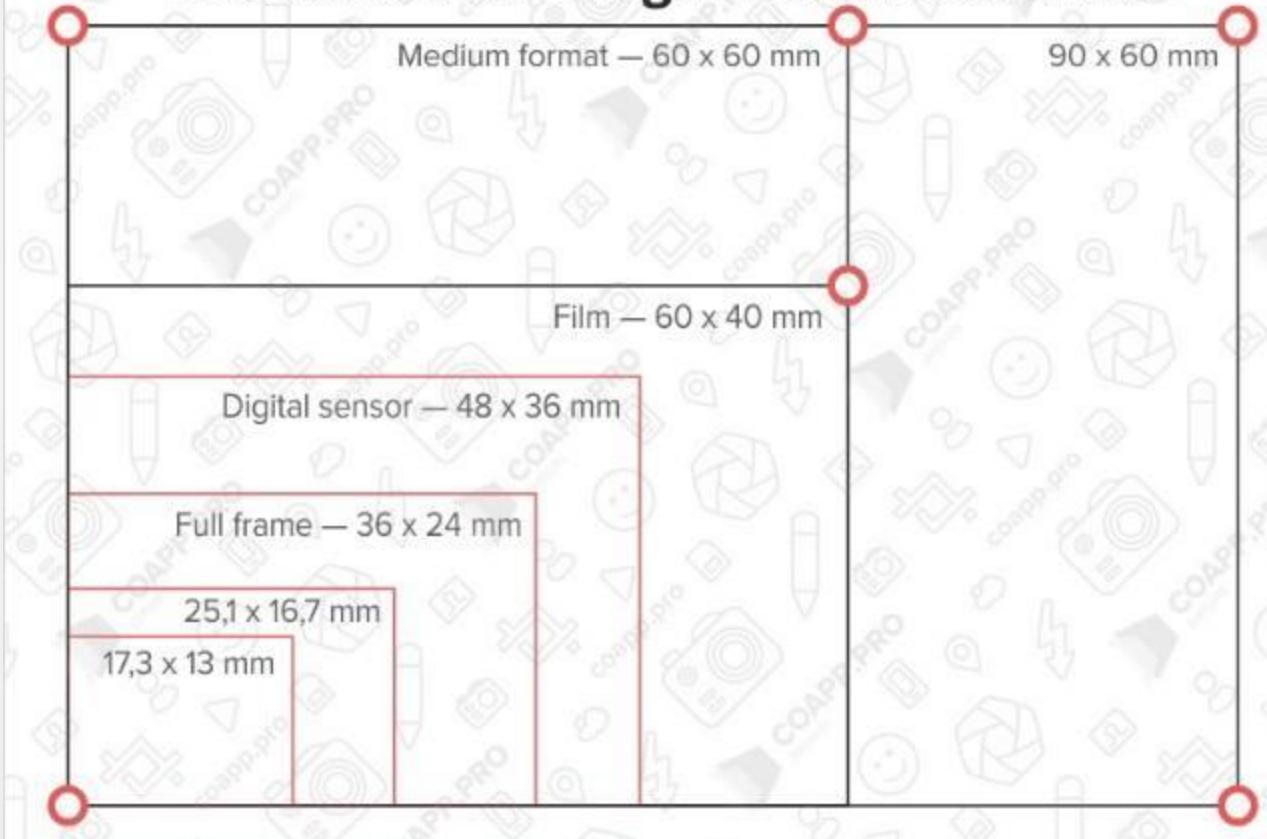
According to the rule
of thirds the main subjects
of the shooting are better
to be located on the lines
or their intersections.



• PHOTOGRAPHY TIPS №8/15 •

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The ration of image sensor and film



• PHOTOGRAPHY TIPS №9 /15 •

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P – Program mode

- Exposure interval and aperture are selected automatically
- EV compensation is possible.

Av(A) – Aperture priority mode

- Aperture can be selected manually
- Exposure interval is automatic
- EV compensation is possible

Tv(S) – Shutter priority mode

- Automatically selected aperture
- Exposure interval can be selected manually
- EV compensation is possible

M – Manual mode

- Exposure interval and aperture can be selected manually
- EV compensation can be achieved by changing shutter speed and aperture
- EV compensation button on inexpensive cameras is the switch between the selection of shutter speed and aperture

In all modes ISO and WB are set manually.

• PHOTOGRAPHY TIPS №11/15 •

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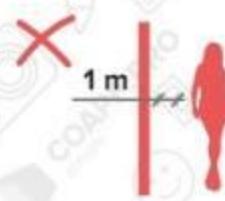
Portrait with blurred background



Open the aperture



Move closer to someone
you're shooting



Place the model out of
the background



Use a greater focal length



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Framing portraits

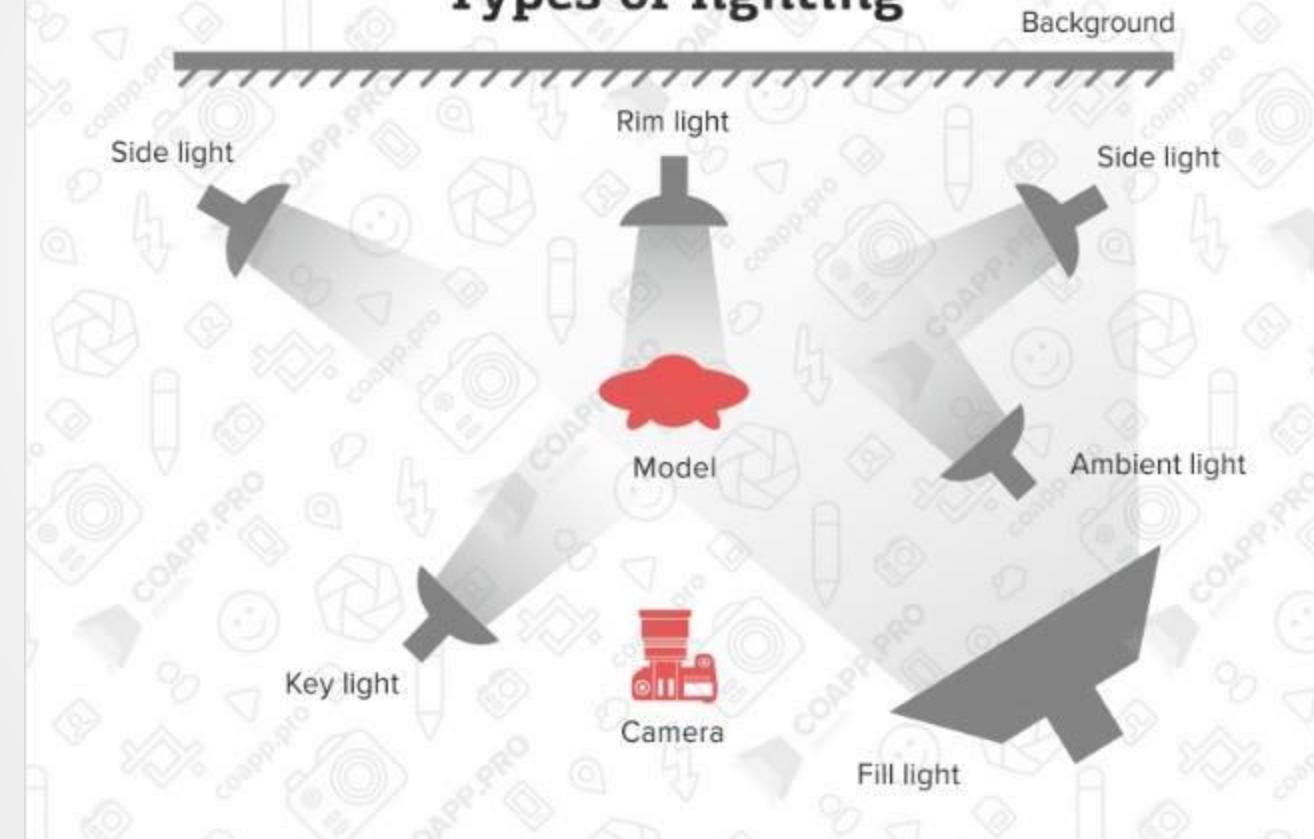
- Don't crop off the joints.
- When framing the head crop the top off almost to the brows.
- Waist up portraits are better to be shot from the waist level.
- Head and shoulders - from the breast level.
- Close up - from the eyes level.



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Types of lighting



shutter speed is ‘the amount of time that the shutter is open’.

- Shutter speed is measured in seconds** – or in most cases fractions of seconds. The bigger the denominator the faster the speed (ie 1/1000 is much faster than 1/30).
- In most cases you’ll probably be using shutter speeds of 1/60th of a second or faster.** This is because anything slower than this is very difficult to use without getting camera shake. Camera shake is when your camera is moving while the shutter is open and results in blur in your photos.
- If you’re using a slow shutter speed (anything slower than 1/60) you will need to either use a tripod or some some type of image stabilization (more and more cameras are coming with this built in).**

- Creates balance
- Adds more complexity to an image than just placing your subject in the centre
- Creates energy
- Gives your photo a sense of depth, rather than just being a flat image

Landscape tips

- Take pictures at the start and end of the day
- Anticipate weather changes
- Diffused light can highlight patterns and textures
- Bright light highlights monochrome colors
- Move around to exclude or block objects from view

Sunset tips

- Include shadowed image for interest
- Often best after the sun has actually gone down
- Less time closer to the equator to take