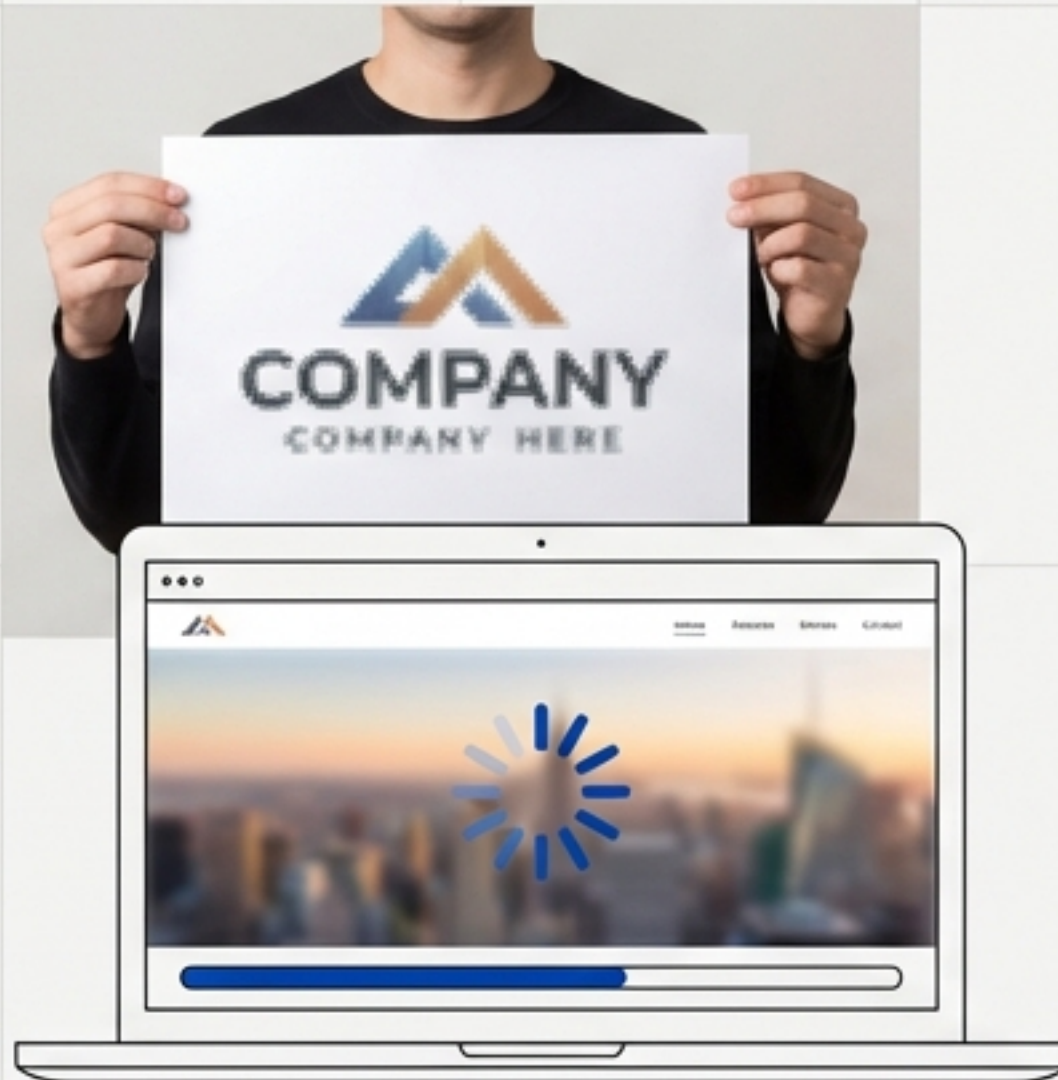


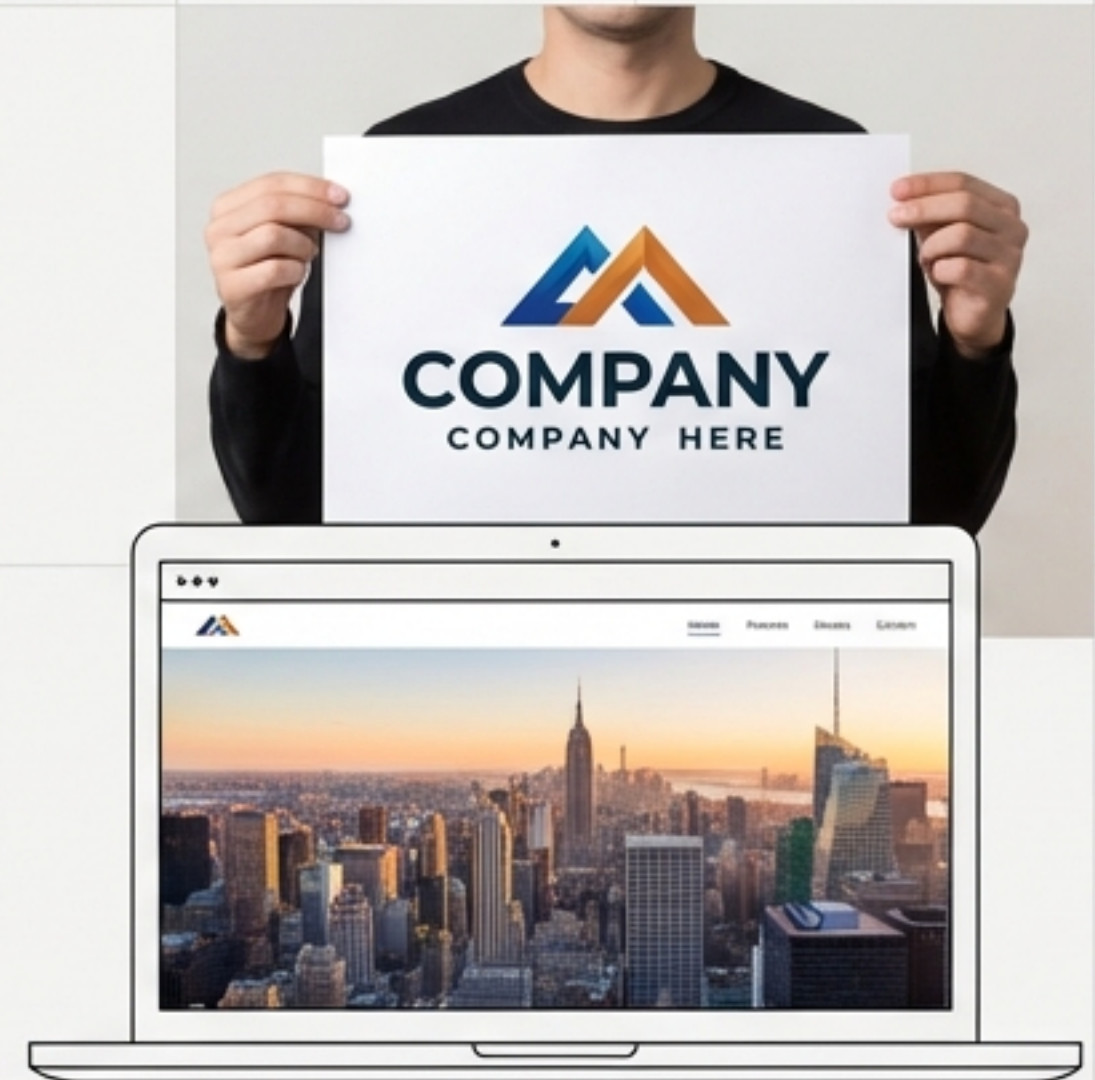
Every Pixel Counts.

The Professional's Blueprint for Perfect Digital Images.

Amateur Hour



Professional Polish



Why do some images look sharp while others fall apart? Why do some websites load in a flash while others lag?
It's not magic. It's a series of **deliberate, expert choices**. This guide is your blueprint for making them.

Your Blueprint for Exam Success.

In the R093 exam, you aren't just asked *what* an image format is. You're asked to **choose** and **justify** your decisions like a professional designer. This deck is structured to build your expertise from the ground up.

The Core Materials



Understanding
Raster vs. Vector

The Right Tools



Mastering Formats
& Properties

The Final Build



Applying Your Knowledge
to Exam Scenarios

This isn't just revision. It's building the mental model
you need to justify your choices under pressure.

The Two Materials of Digital Design: Raster & Vector

Raster (Bitmap)



Made from a grid of tiny squares called **pixels**. Think of it like a mosaic. Perfect for capturing the complex detail of photos and scans.

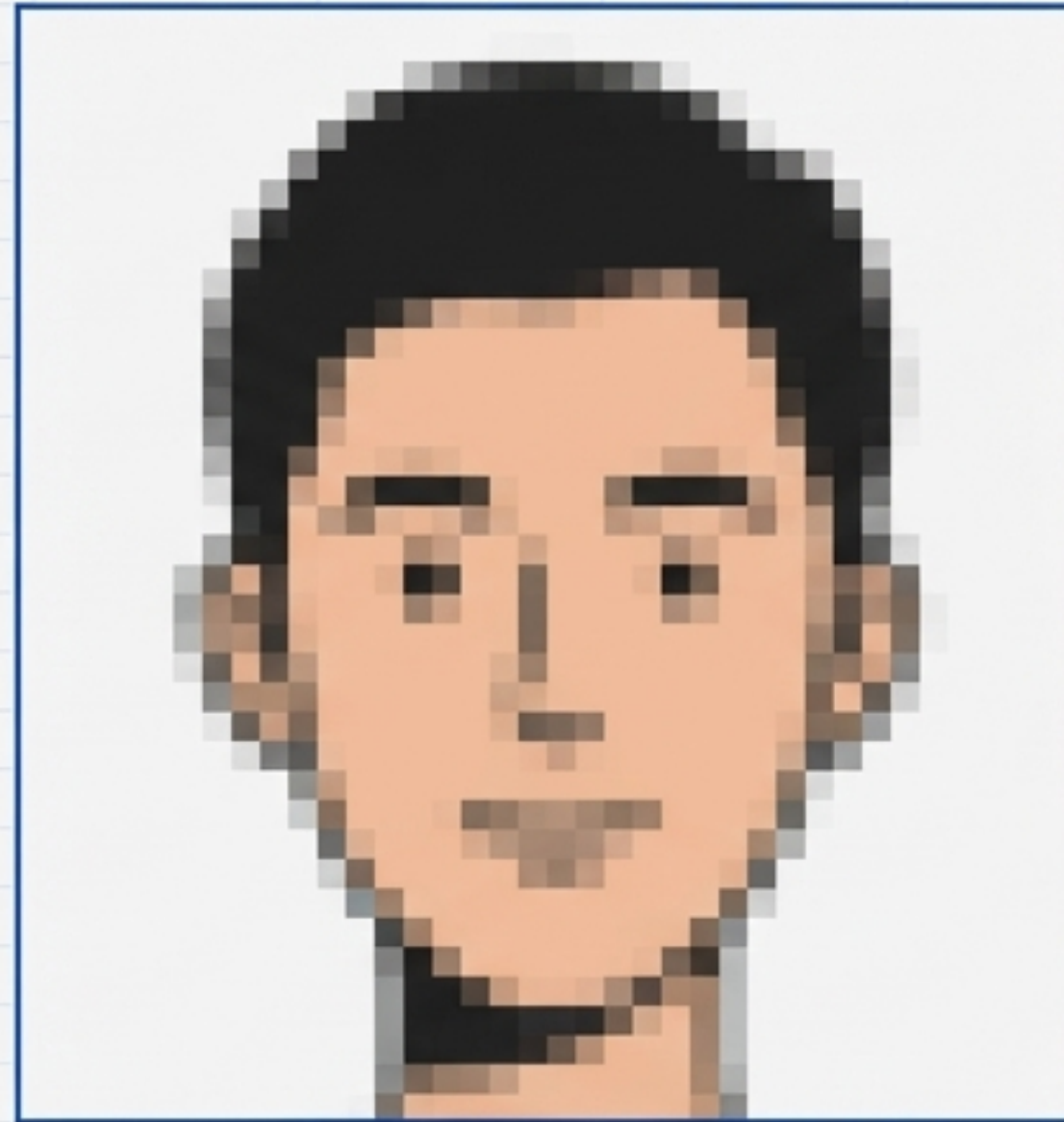
Vector



Made from mathematical **paths, shapes, and lines**. Think of it like a blueprint. Infinitely scalable without any loss of quality.

A Closer Look at Raster Images.

Quality is determined by **resolution** (the number of pixels)



- **What it is:**
A grid of pixels.
- **Best for:** Digital photos, scanned images, and detailed artwork with complex colour gradients.
- **The Golden Rule:** Quality depends on resolution. If you scale up too far, the image becomes pixelated or 'blocky'.
- **Common Formats:**
JPEG, PNG, GIF, TIFF.

The Power of Vector Graphics

Quality is independent of size. **Scale to any dimension with perfect sharpness.**



- **What it is:** A set of instructions using maths to draw lines and shapes.
- **Best for:** Logos, icons, diagrams, and illustrations that need to be used at various sizes (e.g., on a business card and a billboard).
- **The Key Advantage:** Can be scaled to any size without losing quality.
- **Common Format:** **SVG** (plus AI and EPS in professional contexts).

Reading the Spec Sheet: Key Image Properties

These three properties directly impact an image's **quality** and **file size**. You must be able to describe how.



Resolution

The amount of detail an image holds.

Measurement: Measured in **pixels** (e.g., 1920x1080) for screens, or **DPI/PPI** (Dots/Pixels Per Inch) for print.

Higher resolution = more detail = larger file size.

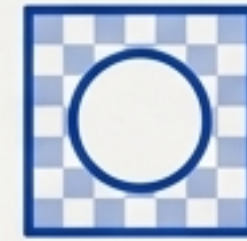


Colour Depth

The number of colours available for each pixel.

Measurement: Measured in bits (e.g., 8-bit, 24-bit).

Impact: Higher colour depth = smoother gradients and more realistic colours = larger file size.



Transparency

The ability for parts of an image to be see-through.

Crucial for placing logos or UI elements on varied backgrounds without a solid box around them.

Supported by **PNG, GIF, SVG**.
Not supported by **JPEG**.

The Digital Designer's Toolkit: Choosing the Right Format.

Format	Type	Compression	Best For	Key Feature
JPEG (.jpg)	Raster	Lossy (trades some quality for small size)	Photographs, complex web images with gradients.	Excellent for managing file sizes of photos.
PNG (.png)	Raster	Lossless (preserves all original data)	Logos, icons, UI elements, graphics with text.	Supports full transparency .
GIF (.gif)	Raster	Lossless (but limited palette)	Simple icons, memes.	Supports simple animation . Limited to 256 colours.
SVG (.svg)	Vector	N/A	Logos, icons, and scalable website graphics.	Infinitely scalable with perfect quality.

Exam Link: In your answer, always state *which* format you would use and explain *why* it is the most suitable choice from this toolkit.

The Workhorse: When to Use JPEG

JPEG uses **lossy compression**: it intelligently discards some data to make file sizes much smaller. This is a trade-off.

Compression Visual



High Quality / Larger File

Data Discarded →



High Compression / Smallest File

Use Case Checklist

- ✓ **Good for:** Photographs and complex images on websites.
- ✗ **Not good for:** Logos or text that need sharp edges.
- ✗ **Does not support transparency.**



The Specialist: Why You Need PNG.

PNG uses **lossless compression**, keeping every detail sharp.
Its killer feature is **alpha transparency**.

JPEG: No Transparency



PNG: Perfect Integration

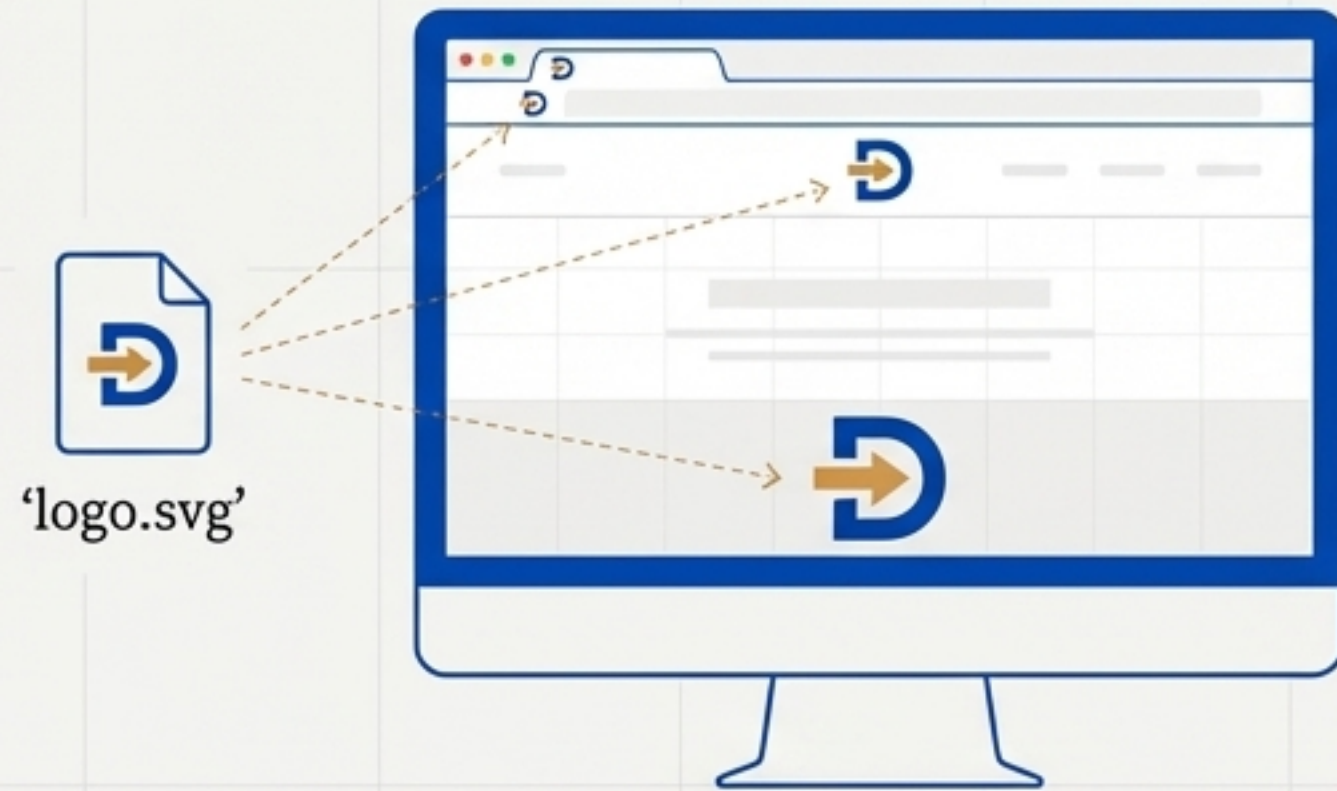


Use Case Checklist

- ✓ **Good for:** Logos, UI elements, and any graphic needing a see-through background.
- ✓ **Good for:** Images with sharp lines or text.
 - File size is often larger than an equivalent JPEG.

The Niche Experts: SVG & GIF.

SVG (Scalable Vector Graphics) The Future-Proof Format.



A vector format. Use one file for every size, from an icon to a billboard, with zero quality loss. Ideal for modern web design.

GIF (Graphics Interchange Format) The Animator.



Supports simple animation and transparency. Limited to 256 colours, making it unsuitable for photos but perfect for short, looping graphics and memes.

The Great Divide: Preparing Images for Web vs. Print.

The platform dictates the properties. Choosing correctly is the difference between a fast website and a blurry poster.



For the Web

- **Goal:** Fast loading times, good quality on screen.
- **Resolution:** Measured in pixels. Lower is often better for speed.
- **File Size:** Keep as small as possible.
- **Compression:** Essential. Use high compression.
- **Recommended Formats:** JPEG (for photos), PNG (for graphics with transparency), SVG (for logos/icons).



For Print

- **Goal:** Maximum detail and clarity on paper.
- **Resolution:** Critical. Measured in **DPI** (Dots Per Inch). 300 DPI is standard.
- **File Size:** Large files are expected.
- **Compression:** Use minimal or lossless compression.
- **Recommended Formats:** High-resolution TIFF, PNG, or maximum-quality JPEG.

The Multi-Platform Challenge: Deconstructing a 9-Mark Question

CLIENT BRIEF: CAMPAIGN ASSETS

A company is creating a campaign that uses images on social media, a website banner and large printed posters.

Discuss how the media team should choose image file types, resolutions and compression settings for each platform to keep quality high and file sizes manageable.

Provide justified recommendations.

Examiner's Clues

Notice the keywords: **choose, resolutions, compression, each platform, and justified.** Your answer must address all of these points clearly.

Applying the Blueprint: Structuring the Perfect Answer.

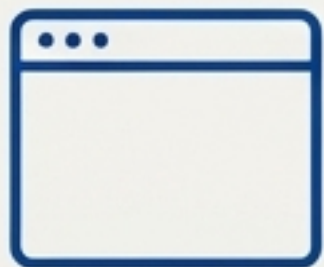
Organise your answer into three clear paragraphs, one for each platform.
For each, recommend and justify.



Social Media

Recommendation: Use optimised **JPEGs** for photos and **PNGs** for graphics. Resolution can be moderate (e.g., 1080x1080px).

Justification: This balances quality with small file sizes for **fast loading on mobile devices** and data plans. Social media platforms compress images anyway, so starting with an optimised file is key.



Website Banner

Recommendation: Use a highly compressed **JPEG** for photographic banners. If the banner is graphical or contains the logo, an **SVG** would be ideal.

Justification: The goal is to maintain visual quality on large desktop screens while ensuring the page loads quickly to reduce bounce rate. **SVG** would ensure the logo is sharp on any screen size, from mobile to 4K displays.



Printed Posters

Recommendation: Use a high-resolution format like **TIFF** or a maximum-quality **JPEG**. The resolution must be at least **300 DPI**.

Justification: Print requires significantly more detail than screens. A low-resolution image taken from the website would appear **pixelated and blurry**, reflecting poorly on the brand. Lossless formats or minimal compression are essential to preserve every detail for a crisp, professional finish.

Your Professional Image Checklist.

Before you export any image, run through the designer's mental checklist.
This is the blueprint in action.

- ☐ Can I explain the fundamental difference between a **Raster** (pixel) and **Vector** (maths) image?
- ☐ For this specific task (web photo, print logo, etc.), which **file format** from my toolkit (JPEG, PNG, SVG) is the best tool for the job?
- ☐ What are the required **properties**? Do I need high print resolution (DPI), screen resolution (pixels), or transparency?
- ☐ Can I **justify my choices**, clearly linking the format and properties to the needs of the platform and the audience?

You now have the blueprint. Go build with confidence.