1. What is Power BI, and what are its three main components?

Answer:
Power BI is a Microsoft business intelligence (BI) tool used for data visualization and interactive reporting.
The **three main components** are:

- **Power BI Desktop** – for creating reports and data models.
- **Power BI Service** – a cloud-based platform for sharing and collaboration.
- **Power BI Mobile** – a mobile app to view and interact with reports on the go.

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2. Name two business use cases for Power BI dashboards.

Answer:

- **Sales performance tracking:** Visualize revenue, top products, and regional sales trends.
- **HR analytics:** Monitor employee turnover, attendance, and satisfaction rates.

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3. How do you download and install Power BI Desktop?

Answer:
You can download **Power BI Desktop** from the **Microsoft Store** or from the official **Power BI website** (https://powerbi.microsoft.com).
After downloading, follow the installation wizard to complete the setup.

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4. What is the difference between Power BI Desktop and Power BI Service?

Answer:

- **Power BI Desktop** is used for creating and designing reports locally.
- **Power BI Service** is an online platform for publishing, sharing, and collaborating on those reports.

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5. What file extension does a Power BI project use?

Answer:
Power BI projects use the **.pbix** file extension.

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6. Explain the role of Power Query in Power BI.

Answer:
Power Query is used for **data extraction, transformation, and loading (ETL)**.
It helps clean, filter, and shape raw data before using it for analysis in Power BI.

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7. Why would a business prefer Power BI over Excel for reporting?

Answer:
Power BI offers **real-time dashboards**, **automated data refresh**, **interactive visuals**, and **cloud sharing**, which Excel lacks.
It's better suited for large datasets and modern business intelligence needs.

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8. Describe one limitation of the free version of Power BI.

Answer:
The **free version** does **not allow sharing reports** with others through the Power BI Service —
sharing requires a **Pro or Premium license**.

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9. What is a "published report" in Power BI Service?

Answer:
A published report is a report created in Power BI Desktop and **uploaded to the Power BI Service** for viewing, sharing, and collaboration online.

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10. How does Power BI Mobile enhance accessibility?

Answer:
Power BI Mobile allows users to **access and interact with dashboards and reports** anytime and anywhere via smartphones or tablets.

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11. Compare Power BI with Tableau—pros and cons.

Answer:

Feature	Power BI	Tableau
Pros	Affordable, easy integration with Microsoft tools, strong DAX engine	Highly customizable visuals, better for complex analytics
Cons	Limited advanced visualization flexibility	Expensive, steeper learning curve

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12. Explain how Power BI integrates with Azure services.

Answer:
Power BI integrates with **Azure SQL Database**, **Azure Synapse**, **Azure Machine Learning**, and **Azure Active Directory** to connect data, perform analytics, and ensure secure authentication.

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13. What are "gateways" in Power BI, and when are they needed?

Answer:
Gateways are connectors that **link on-premises data sources** (like SQL Server or Excel files) with the **Power BI cloud service**.
They're needed when you want to **refresh or access local data** in cloud-based reports.

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14. How would you convince a company to adopt Power BI? (ROI argument)

Answer:
Power BI reduces reporting time, automates data updates, and provides real-time insights — leading to **faster decisions, higher productivity, and cost savings**. Its low license cost ensures a **high return on investment (ROI)**.

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15. What security features does Power BI offer for sensitive data?

Answer:
Power BI provides **Row-Level Security (RLS)**, **data encryption (in transit and at rest)**, **Microsoft Entra ID (Azure AD) authentication**, and **sensitivity labels** to protect confidential data.