



## PW Serie No. 2: Information Encoding Systems

**Exercise 01:** Identify the base of the following numbers:

- $22_8$
- $101010_{10}$
- $1A_{16}$
- $1101_2$
- $123_4$

**Exercise 02:** You have two files: one is **7.5 MB** in size, and the other is **13,000 KB**. Determine which file is larger and by how much, expressing the difference in kilobytes (KB).

**Exercise 03:**

convert between these various number systems in the table below

<b>Binary</b>	$(1101011)_2$	$(???)_2$	$(???)_2$	$(???)_2$	$(???)_2$	$(111001)_2$
<b>Octal</b>	$(???)_8$	$(45)_8$	$(???)_8$	$(???)_8$	$(362)_8$	$(???)_8$
<b>Hexadecimal</b>	$(???)_{16}$	$(???)_{16}$	$(???)_{16}$	$(1A3F)_{16}$	$(???)_{16}$	$(???)_{16}$
<b>Decimal</b>	107	$(???)$	127	$(???)$	$(???)$	$(???)$

**Exercise 04:** Your internet connection has a download speed of **20** megabits per second (**Mbps**). If you want to download a **4.5 GB** video, how long will it take to download? Express the result in **minutes**.

**Good luck**  
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