Name: ..... Due: **Next Class / Friday**

C3 Mixers & DAWs HW 2 – Cher 'Believe' & Digital Consoles / Auto-Tune

Artist: Cher (Believe, 1998, Producers: Mark Taylor & Brian Rawling, Metro Productions)
https://www.youtube.com/watch?v=nZXRV4MezEw

1. "Believe" was a pivotal 1998 dance-pop milestone. Identify the production elements and vocal effects in the table below. (3)

Production Element	Processing & Technology Used
Lead Vocal Hook ("Do you believe...")	Antares Auto-Tune set to Retune Speed 0 (zero portamento)
Eurodance Synthesizer Arpeggios	Clavia Nord Lead & Roland JV-1080 virtual/MIDI synth patches
Four-on-the-Floor Kick Drum	
Backing Vocals / Vocoder Texture	

2. Describe the mathematical and algorithmic process used by Antares Auto-Tune to correct vocal pitch in real time. (2)

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3. Metro Productions mixed on a Yamaha 02R digital mixing desk. State two major operational advantages of digital consoles over analogue desks in the late 1990s. (2)

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4. Why is a dedicated Master Word Clock connection (via 75-ohm BNC cable) critical when syncing multiple digital devices such as digital consoles, converters, and effects units? (3)

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5. On a fully parametric equaliser, explain how the Quality Factor (Q) parameter operates, and describe a scenario where an engineer would choose a high Q versus a low Q setting. (4)

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6. Pre-fader vs Post-fader Auxiliary Sends: complete the technical analysis table below: (4)

Pre-Fader Aux Send: Signal Path & Practical Application (2)
Where it taps signal, and why it is essential for performer headphone cue mixes:
Post-Fader Aux Send: Signal Path & Practical Application (2)
Where it taps signal, and why it is essential for shared reverb / delay time-based effects:

Total:	**/18**